



Final Programmatic Environmental Assessment
Devils Lake Region, North Dakota
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FEMA

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List of Acronyms

44 CFR 10 – FEMA Environmental Considerations Regulations
44 CFR 9 – FEMA Floodplain and Wetlands Regulations
BIA – Bureau of Indian Affairs
BMP – Best Management Practices
cfs – cubic feet per second
CRP – Conservation Reserve Program
CWA – Clean Water Act
EA – Environmental Assessment
EFH - Essential Fish Habitat
EIS – Environmental Impact Statement
EO – Executive Order
EO 11988 – Floodplain
EO 11990 – Wetlands
EO 12898 – Environmental Justice
EPA – Environmental Protection Agency
ESA – Endangered Species Act
FEMA – Federal Emergency Management Agency
FPPA – Farmland Protection Policy Act
FONSI – Finding of No Significant Impact
FWCA - Fish and Wildlife Coordination Act
FWS – U. S. Fish and Wildlife Service
HMGP – Hazard Mitigation Grant Program
HUD – Department of Housing and Urban Development
MBTA - Migratory Bird Treaty Act
NAAQS - National Ambient Air Quality Standards
NEPA – National Environmental Policy Act
NFIP - National Flood Insurance Program
NHPA – National Historic Protection Act
NMFS – National Marine Fisheries Service
NOAA Fisheries- National Oceanic and Atmospheric Administration National Marine Fisheries Service
NRCS – Natural Resources Conservation Service
NRHP - National Register of Historic Places
PA – Public Assistance, Programmatic Agreement
PEA – Programmatic Environmental Assessment
ROW – right-of-way
Section 106 – Historic Preservation Consultation
Section 404 – Hazard Mitigation Grant Program
Section 404 Permit – CWA Dredge and Fill Permit
Section 406 – Public Assistance Program
Section 7 – Endangered Species Consultation
SEA – Supplemental Environmental Assessment
SHPO – State Historic Preservation Officer
TDS – total dissolved solids
T&E – Threatened & Endangered

List of Acronyms (continued)

THPO – Tribal Historic Preservation Officer

USACE – U.S. Army Corps of Engineers

USGS – U.S. Geological Service

WPA – Waterfowl Production Area, Wildlife Protection Area

1.0 Introduction

The project area of this Programmatic Environmental Assessment (PEA) includes the Devils Lake Region of northeastern North Dakota and includes portions of Benson, Ramsey, Nelson and Towner Counties, North Dakota.

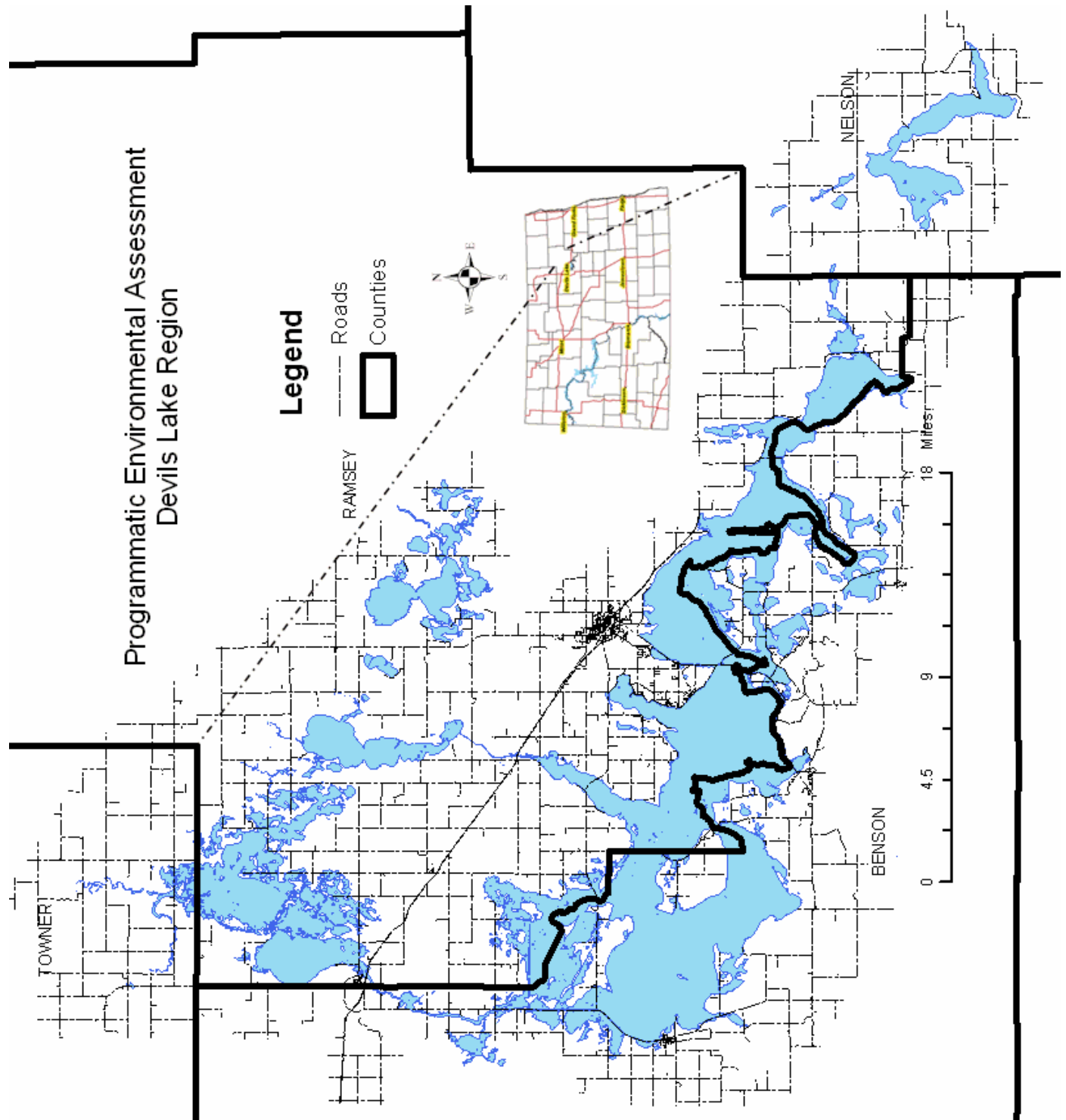
Historically, Devils Lake and the surrounding wetlands, prairie, and forests supported Native Americans for centuries, and, in the mid-1800s, Euro-American settlers started migrating to the area. By the 1880s, Devils Lake and the surrounding area were experiencing a significant change in character with the development of commercial navigation, a resort industry, rural towns, and the conversion of the prairie to agriculture land uses. In the early 1900s, a falling lake marked the end of commercial navigation and a cutback in resort activities. Farming became the principal economic factor in the Devils Lake basin. The present economy is still largely dependent on agriculture; however, the recreation industry (fishing, hunting, and water-based activities) is a multi-million dollar business that has rebounded with rising lake levels.

Ramsey County has a total area of 837,760 acres, or 1,309 square miles. Of this acreage, 64,958 acres, or 101 square miles, is water. Most of the water area is Devils Lake and the chain of lakes in the central and northwestern parts of the county. The town of Devils Lake, the county seat, is in the southern part of the county. Benson County is west of Ramsey County and Minnewaukan, is the county seat. The county has a total area of 867,644 acres or 1,356 square miles. Benson County borders the southern and western shoreline of Devils Lake. Nelson County has 575,360 acres, or about 900 square miles. Towner County also is about 900 square miles. The Spirit Lake Tribe Indian Reservation covers approximately 405 square miles primarily in Benson County, and in the Southern part is Eddy County, Nelson on the east boundary and Ramsey County to the north. Total acres as of 1998 was as follows; total tribally owned is 26,283 acres, allotted (trust) land; (trust) is 34,026 acres, U.S. Government and State is 375 acres. And fee land is 184,451 acres. Total acres within the exterior boundaries is total land 245,141 acres. The PEA project area encompasses an area of approximately 900 square miles in this four county area surrounding Devils Lake, Stump Lake and the chain of lakes (Figure 1).

Devils Lake and its watershed comprise about 5 percent of the State of North Dakota. The topography of the watershed results in essentially the entire watershed draining into Devils Lake and then, at times, into the Sheyenne River. Over the past several thousand years, the level of Devils Lake has fluctuated greatly, with approximately 65 feet of elevation difference from its lowest level to its highest level. Devils Lake basin is defined as a closed basin, but under extreme high water conditions, water flows to Stump Lake which then overflows to the Sheyenne River, contributing flow to the Red River. Water does not flow out of the basin until it reaches an elevation of 1459 in Stump Lake. The last spill is estimated to have occurred 800 to 1,200 years ago. These characteristics result in an unusual situation at Devils Lake related to flooding of land and developed areas around the lake and within the watershed.

The lake reached the highest level in August 2005 since 1867, when record keeping was started. On August 12, 2005 the lake reached an elevation of 1448.9. The lake level has been increasing since 1940; much more dramatically since 1993, with significant flood damages occurring around the lake.

Figure 1 Devils Lake, North Dakota and Surrounding Region



2.0 Purpose and Need

2.1 Purpose of the Public Assistance Program

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) is mandated by the U.S. Congress to administer Federal disaster assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. Section 406 of the Stafford Act provides FEMA the authority to fund the restoration of eligible public facilities that have sustained damage due to a major disaster as determined by the President of the United States. Section 406 contains a provision for funding additional measures, not required by applicable codes and standards (further described in 44 CFR 206.226) that will enhance a facility's ability to resist similar damage in future events. These are the two key Sections of the Public Assistance Program.

FEMA is required to comply with the following requirements of the Stafford Act, applicable environmental laws and Executive Orders when providing assistance under the Public Assistance Program. These requirements are intended to reduce future damage and impacts when eligible facilities, such as roads, are located in areas that are subject to future damage.

- ? Applicable environmental laws
- ? Presidential Executive Orders 12898, 11988 and 11990 (Environmental Justice, Floodplain Management and the Protection of Wetlands)
- ? 44 CFR 206.226(e) [Hazard Mitigation]
- ? 44 CFR 206.226(g) [Relocation]

In providing discretionary authority for the addition of hazard mitigation measures to permanent work restoration, Congress recognized that, during the repair of damaged components of facilities, there would be unique opportunities to prevent recurrence of similar damage from future, similar disaster events. These measures are in addition to any measures undertaken to comply with applicable codes and standards. Once approved under Section 406, the hazard mitigation becomes a condition of Federal Disaster Assistance and the applicant is required to perform the work.

1.2.1 Need for the Action

The surface area of Devils Lake increases as the lake level rises. Most of the expansion occurs to the west and north, inundating primarily pasture and agricultural lands. When the lake reached its historic low of 1400.9 in 1940, the lake's surface area was only about 10 square miles, confined to the main bay of the lake. Just prior to the sustained lake rise of the last 8 years, the lake level in 1993 was at 1422.5, with a surface area of 44,000 acres (68 square miles). The lake currently has a surface area of 137,000 acres (214 square miles). If the lake reaches 1459 and spills thru Stump Lake to the Sheyenne River via Tolna Coulee, the surface area would be 278,000 acres (433 square miles), including Stump Lake. If the lake continued to rise until its outflow balances

inflow, probably to a maximum of about 1463 at the west end, the surface area would be approximately 354,000 acres (553 square miles).

Each foot of lake rise inundates a progressively greater area; for example, a 1-foot increase at elevation 1420 adds about 2,300 acres to the lake's surface area, whereas a 1-foot increase at elevation 1450 adds nearly 10,000 acres. Correspondingly, as the lake elevation gets higher, each foot of lake rise takes a greater volume of inflow. For example, a 1-foot increase at elevation 1420 requires another 39,000 acre-feet of water, whereas a 1-foot increase at elevation 1450 requires 151,000 acre-feet of inflow. This physical characteristic of the lake tends to have a self-dampening effect on lake-level fluctuations. As the lake rises, there is a self-dampening effect on further rises because of the combination of a need for a greater volume of water for the next increment of rise plus an increased volume of lake water lost to evaporation from the larger surface area. Likewise, as the lake falls, there is a self-dampening effect on further falls because, at low lake level, the reduced surface area means that evaporation losses are less and that a smaller volume of water is needed for an incremental raise in elevation.

The gradual rise in the lake level elevation has resulted in the inundation of millions of dollars worth of facilities including roads, utilities, land and homes and created the need for this action.

1.2.2 Purpose, Scope, and Use of the Programmatic Environmental Assessment

The National Environmental Policy Act of 1969 (NEPA) and its implementing regulations at 40 C.F.R. Part 1500 and 44 C.F.R. Part 10 direct FEMA to take into consideration the environmental consequences of proposed actions during the decision-making process. FEMA must comply with NEPA before making federal funds available for disaster response, recovery, and mitigation, including implementation of the Public Assistance and Hazard Mitigation Grant Programs.

The Stafford Act and FEMA's implementing regulations for NEPA provide for the exemption of certain actions from NEPA and the exclusion of other actions from full review under NEPA. An action which is taken or assistance is provided which has the effect of restoring a facility substantially to its condition prior to the disaster or emergency, has been determined to not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (83 Stat. 852) [42 U.S.C. §§ 4321 et seq.]. For all other actions, FEMA prepares, pursuant to its regulation implementing NEPA a Categorical Exclusion (CX), an Environmental Assessment (EA) or an environmental impact statement (EIS). A CX documents that the proposed project meets the criteria of a class of actions that FEMA has determined do not create significant impacts and do not require the preparation of either an EA or EIS. An EA is a concise public document that serves to provide evidence of the environmental impacts of a proposed action. The assessment includes alternatives to aid in decision making and concludes with one of two findings: a Finding of No Significant Impact (FONSI) or a Notice of Intent to prepare an EIS. FEMA must prepare an EIS when significant environmental impacts are anticipated and cannot be mitigated.

FEMA has determined through experience that the majority of the typical recurring actions proposed for funding, and for which an EA is required, can be grouped by type of action or location. These groups of actions can be evaluated in a PEA for compliance with NEPA and its

implementing regulations without the need to develop and produce a stand-alone EA for every action.

This PEA evaluates typical actions undertaken by FEMA to implement the Public Assistance Program to provide disaster relief to North Dakota counties as a result of historic and anticipated future flooding caused by rising water levels in the Devils Lake Basin. It applies to all proposed alternatives described in this document. This PEA also provides the public and decision-makers with the information required to understand and evaluate the potential environmental consequences of these actions and to consider these impacts in decision making. The purpose of this action is to help fulfill FEMA's mandate under the Public Assistance Program to expeditiously provide disaster relief by expediting the environmental review process.

FEMA will use this PEA to determine the level of environmental analysis and documentation required under NEPA for any of the proposed alternatives in the four counties of North Dakota, once site-specific information on a selected alternative is provided. If the alternatives, levels of analysis, and site-specific information of an action proposed for FEMA funding are fully and accurately described in this PEA, FEMA will prepare a memorandum documenting this determination. This memorandum would state that FEMA has reviewed the proposed action, alternatives, and potential direct, indirect and cumulative impacts and found them to be accurately described by this PEA and its associated FONSI. No further documentation would be required to comply with NEPA. Because FEMA would be required to implement the mitigation measures contained in the PEA, the memorandum would summarize the mitigation measures to be undertaken for the action.

If the specific action is expected to (1) create impacts not described in the PEA; (2) create impacts greater in magnitude, extent, or duration than those described in the PEA; or (3) require mitigation measures to keep impacts below significant levels that are not described in the PEA; then a Supplemental Environmental Assessment (SEA) and corresponding FONSI would be prepared to address the specific action. The SEA would be tiered from this PEA, in accordance with 40 CFR Part 1508.28.1. Actions that are determined, during the preparation of the SEA, to require a more detailed or broader environmental review will be subject to the stand-alone EA process.

3.0 Alternatives

This section describes typical actions, including the No Action alternative, which FEMA could undertake in order to administer and implement the Public Assistance Program to the affected counties. Before FEMA can take any action under the Public Assistance Program there must be a Presidentially declared disaster. Disaster or emergency assistance provided by FEMA is intended to supplement assistance available from other sources, such as insurance, other federal programs and any other source. For example, FEMA may only fund road projects that are not eligible for funding from other Federal agencies. Roads that are part of the Federal Aid system (FAS) and roads maintained by the Bureau of Indian Affairs (BIA) are not eligible for FEMA funding.

In the event the President makes a determination that a major disaster has occurred FEMA is to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused by the disaster. In some instances FEMA's response is determined to be an emergency action. The Stafford Act defines emergency as "any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States." Depending upon the response action FEMA determines is necessary to maintain a road network there may only one viable option to be implemented. The following list of alternatives may not be available at all site-specific locations. These alternatives represent classes of actions that may be implemented individually or in combination with one another during a Presidentially declared disaster

3.1 Alternative 1: No Action

Inclusion of a No Action Alternative is required under NEPA and is defined as maintaining the status quo, with no FEMA funding for any alternative action. Any action by FEMA is dependent upon there being a Presidentially declared disaster in the affected counties and that Devils Lake flooding is a contributing factor to the declaration. Even with a disaster declaration FEMA may take no action if the proposed project does not meet eligibility requirements of its programs.

3.2 Alternative 2: Incremental Road Grade Raise

This action requires a Presidential disaster declaration in order for FEMA funding to be provided. Grade raises are a class of actions that typically occur within the existing footprint of a roadway including the parallel drainage ditch. These projects occur in areas that have been previously disturbed during the original road construction and maintenance activities and are typically short segments in length. In some instances a road grade raise will occur on a road segment that has been previously elevated. Included in this alternative are culverts and bridges which are necessary to use and maintain the roadway and to prevent roadways from inadvertently serving as a dike or levee.

3.3 Alternative 3: Road Relocations

This action requires a Presidential disaster declaration in order for FEMA funding to be provided. This alternative includes the relocation of a flooded segment of roadway to a new location that will not have the potential of being flooded in the future. Included in this alternative are culverts and bridges which are necessary to use and maintain the roadway and to prevent roadways from inadvertently serving as a dike or levee. These projects typically occur in areas that have not been previously disturbed. They are typically longer segments than the roadway they are replacing. The roadway being replaced is abandoned however in certain circumstances the abandoned roadway may be eligible for future FEMA funding under a subsequent disaster declaration.

3.4 Alternative 4: Alternate Route (Transfer of Function)

This action requires a Presidential disaster declaration in order for FEMA funding to be provided to support implementation. This alternative involves abandoning the roadway being flooded and the traffic patterns are re-routed onto an existing alternate route. This alternative may not always involve new construction on the alternate route but would result in modification to existing traffic patterns. FEMA can provide funding under this alternative in the event the alternate route requires improvements and upgrading to meet the transportation standards required for the alternate route to carry the increased demands of re-routed traffic.

3.5 Alternative 5: Home Acquisition (Alternate Project)

This is an alternate project in lieu of expending FEMA funding to construct a grade raise or relocation of a roadway that provides access to a home or group of homes. This alternative involves the voluntary participation by the homeowner to sell their home. The county would take title of the property at closing and all property purchased would be demolished and disposed of in a method approved by the county. Any wells and septic system will be dispositioned in accordance with the Lake Region District Health Unit. The road that serviced the purchased home(s) would be abandoned and not eligible for FEMA funding.

4.0 Affected Environment, Environmental Consequences, and Mitigation Measures

Devils Lake flooding is different from riverine flooding. A river typically rises relatively abruptly, has a duration generally measured in terms of days or weeks, and then returns to normal, with the next flood potential independent from any prior flood. In contrast, Devils Lake rises relatively slowly, starting with the spring runoff and peaking in the summer when increasing evaporation and decreasing flows reach a balance. Each succeeding year's flood potential is directly related to the prior year's lake level. In addition, due to server storm events Devils Lake has the potential to experience more than one flood event during the summer months. Therefore, a series of what would be relatively modest riverine flood events can add up to a major lake flood.

In April 2003 the U. S. Army Corps of Engineers issued the Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement (Devils Lake EIS). FEMA has reviewed this document and determined that information contained in this document is applicable and relevant to this PEA, particularly descriptions of the affected environment associated with Devils Lake and its immediate vicinity. FEMA has used portions of this document in the preparation of this PEA and is incorporating by reference this document per 40 CFR 1502.21.

The following sections discuss the environmental resources and the regulations that are applicable to the management and protection of the resources. This discussion is regional in nature, addressing the resources in the affected counties. It does not include a complete inventory of each resource but does provide information to characterize those resources. Readers are directed to the Devils Lake EIS for a more thorough discussion of the affected environment which is used as a major source document in this PEA. The Devils Lake EIS can be accessed on the World Wide Web at:

www.mvp.usace.army.mil/fl_damage_reduct/default.asp?pageid=14&subpageid=83

This section also describes the potential impacts that each alternative could have on the identified resources. When mitigation is appropriate to avoid or reduce adverse impacts, these measures are also described.

4.1 Physiography, Geology and Soils

4.1.1 Affected Environment

4.1.1.1 Physiography and Geology

The PEA project area is in the Drift Prairie section of the Central Lowland Province and is along the eastern edge of the Williston Basin. It is in the physiographic unit known as the drift prairie and in the drainage basin of the Red River of the North. Elevation ranges from about 1,405 feet to about 1,776 feet. The project area lies within the Devils Lake basin and includes the Chain of

Lakes to the north, Devils Lake and Stump Lake in the southeast. The principal streams are Mauvais, Starkweather, and Edmore Coulees. Mauvais Coulee flows into Devils Lake and is the discharge stream for the Chain of Lakes in the central and northwestern parts of the project area. Edmore and Starkweather Coulees flow into the Chain of Lakes and drain the northern and central parts of the basin.

The Devils Lake basin was created by the last advance of the continental ice sheets in North Dakota. The west and south drainage divides of the basin are defined by end moraines; the rest of the basin is enclosed by broad, low divides in the ground moraine mantling the basin. Glacial Devils Lake was maintained at about elevation 1450 feet by glacial melt water flowing from the retreating ice sheet to the north, by precipitation, and snow melt water. Drainage was to the south and down the ancestral Sheyenne River. The Devils Lake basin became a closed basin when the southerly drainage ceased and the amount of water flowing into the basin became less than subsurface outflow or water lost by evapotranspiration.

4.1.1.2 Soils

Soils in the project area formed in glacial material derived from pre-glacial granite, gneiss, sandstone, shale, limestone and basalt. About 40 percent of the total acreage of the project area meets the soil requirements for prime farmland. Nearly all of this prime farmland is used for crops. The crops grown on this land, mainly wheat and sunflowers, account for a major part of the county's total agricultural income each year.

Prime farmland, as defined by the U.S. Department of Agriculture, is the land that is best suited to food, feed, forage, fiber, and oilseed crops. It may be cultivated land, pasture, woodland, or other land, but it is not urban and built-up land or water areas. It either is used for food or fiber crops or is available for those crops. The soil qualities, growing season, and moisture supply are those needed for a well managed soil economically to produce a sustained high yield of crops. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment.

Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The level of acidity or alkalinity is acceptable. Prime farmland has few or no rocks and is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available through the Natural Resources Conservation Service (NRCS).

4.1.2 Regulatory Setting

The Farmland Protection Policy Act (FPPA) require federal agencies to evaluate the effects (direct and indirect) of their activities before taking any action that could result in converting designated prime or unique farmland for nonagricultural purposes. If an action would adversely

affect farmland preservation, alternative actions that could avoid or lessen adverse effects must be considered. Determination of the level of impact to prime and unique farmland or farmland of statewide and local importance is done by the lead federal agency, which inventories farmlands affected by the proposed action and scores part of an AD 1006 Form, Farmland Conversion Impact Rating, for each alternative. In consultation with the lead federal agency NRCS completes the AD 1006 Form and determines the level of consideration for protection of farmlands that needs to occur under the Act.

4.1.3 Environmental Consequences and Mitigation Measures

4.1.3.1 Alternative 1: No Action

This alternative does not include any FEMA action. Therefore, FEMA would not be required to comply with the FPPA. Alternative 1 does not have the potential to affect geology or soils.

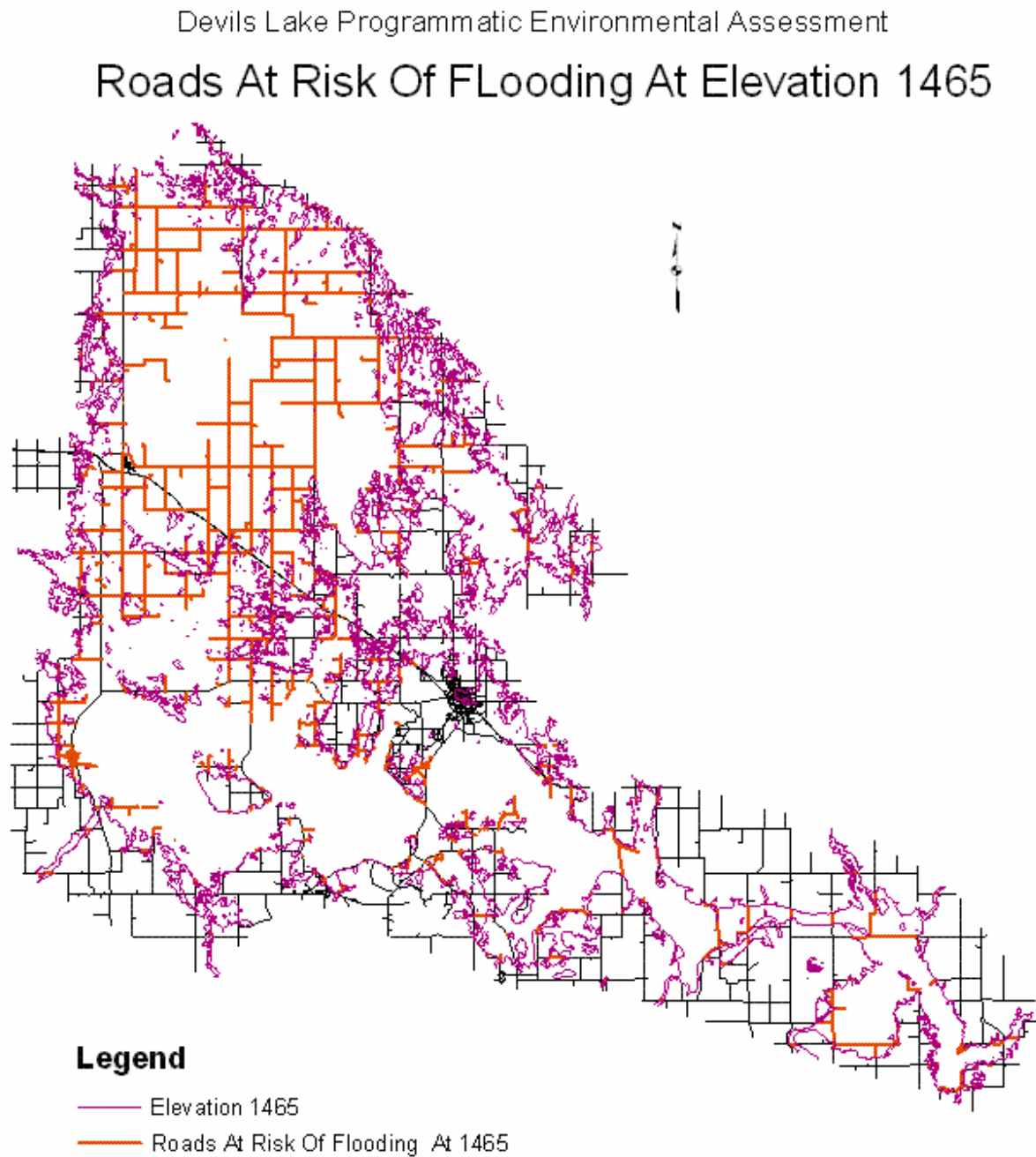
4.1.3.2 Alternative 2: Grade Raises

This alternative consists of performing work within the existing right-of-way (ROW) of existing roads and construction would be in areas that have been previously disturbed and are dedicated as a transportation corridor. FEMA has estimated that if all roads at risk of being flooded at an elevation of 1465¹ were subjected to the necessary grade raises it would require approximately 67 million cubic yards of fill material and that there would be approximately 350 miles of road segments raised (Figure 2). The grade raises would also potentially affect local topography by elevating roadbeds 1468 feet (this elevation is inclusive of 3 feet of free-board). This topographic change may not be noticeable while water levels of Devils Lake are high, at some point in the future lake levels are expected to recede. If the lake recedes to the 1993 level of 1422.5 the road system could rise 44 feet above the landscape and would be a stark contrast to the surrounding area.

Implementation of this alternative could place a significant demand on fill material. The scope of work proposed for grade raises does not have the potential to affect geology or soils in the road right-of-way because they have been previous committed and used as a roadway or transportation corridor.

¹ Throughout the PEA various water level elevations are referenced. The original elevation at which Devils Lake and Stump Lake would equalize and would flow into the Sheyenne River was 1460. This channel was cleared out and the current overflow elevation is 1459. Initial work done on the Devils Lake Risk Assessment was based upon the 1460 elevation. In order to account for the effect of high winds causing the lake elevation to surge above 1460 FEMA added, based upon USACE calculations, an additional 5 feet in lake elevation resulting in the highest water elevation likely to cause flooding impacts of 1465. In order to provide the necessary road grade free-board an additional 3-feet of elevation is added to the 1465 to achieve a roadbed elevation of 1468.

Figure 2 Roads at Risk of Flooding at Elevation 1465



Suitable fill material may have to be obtained outside of the PEA project area. This alternative is expected to have minimal impacts due to erosion. Erosion can be mitigated by use of best management practices (BMPs) during construction. FEMA would require implementation of best management practices (BMPs), such as developing and implementing an erosion and sedimentation control plan, using silt fences or straw bales, and revegetating disturbed soils. At this time it is expected that fill material would not be obtained from soils designated as prime farmland. This alternative complies with FPPA.

4.1.3.3 Alternative 3: Road Relocations

This alternative consists of performing work outside the ROW of flooded roads. Area top soils would be disturbed during construction. Based upon FEMA's experience in funding road relocations it can be expected that the relocations will occur on land that is used for agricultural purposes or natural areas that are not suitable for agricultural development. Some soil loss would occur directly from construction activities or indirectly via wind or water erosion.

The North Dakota Department of Health has defined requirements to mitigate soil erosion due to construction and environmental disturbance activities. Their requirements are presented in Appendix B.

FEMA would require implementation of best management practices (BMPs), such as developing and implementing an erosion and sedimentation control plan, using silt fences or straw bales, and revegetating disturbed soils. If the site is within incorporated city limits or does not contain prime, unique, or important soils, the action complies with FPPA and no further documentation is required.

The potential exists that some road relocations may result in the conversion of agricultural land to a transportation corridor or roadway. If construction of new facilities is proposed to occur on agricultural land, FEMA would determine if the proposed site is within the limits of an incorporated city or if the site contains state-listed prime, unique, or important soils. If the site is within incorporated city limits or does not contain prime, unique, or important soils, the action complies with FPPA and no further documentation is required. Otherwise, FEMA would prepare the appropriate sections of an AD-1006 Farmland Conversion Impact Rating Form for the action, coordinate with the NRCS to determine the overall impact of the conversion, and document the results of FPPA compliance in a memorandum or SEA.

4.1.3.4 Alternative 4: Alternate Route

In the event FEMA funds roadway improvements on the alternate route the impacts to soil and geology would be limited to the existing roadway of the alternate route. This alternative is expected to have minimal impacts due to erosion. Erosion can be mitigated by use of best management practices (BMPs) during construction. FEMA would require implementation of best management practices (BMPs), such as developing and implementing an erosion and sedimentation control plan, using silt fences or straw bales, and revegetating disturbed soils. At

this time it is expected that fill material would not be obtained from soils designated as prime farmland. This alternative complies with FPPA.

4.1.3.5 Alternative 5: Home Acquisition

Alternative 5 does not have the potential to affect geology or soils.

4.2 Air Quality

4.2.1 Affected Environment

Devils Lake has a continental climate characterized by relatively warm, short summers and long cold winters. Precipitation averages about 17 inches annually, some three-fourths of which falls between April and September. The three or four inches that are received during the colder months contribute the most to spring runoff and subsequent inflow to Devils Lake. The maximum recorded temperature is 112 degrees Fahrenheit and the minimum is 46 degrees Fahrenheit below zero. The lowest annual precipitation record is 10.08 inches recorded in 1967 and maximum is 27.77 inches recorded in 1986.

North Dakota is one of only 11 states currently in compliance with all of the National Ambient Air Quality Standards (NAAQS), and is one of only six states that have never had a violation of any of the NAAQS since the Clean Air Act was enacted in 1970. North Dakota's air quality is usually considerably better than the NAAQS.

The project area is located in a rural region of north central North Dakota. Many, if not most, of the farmsteads and residential structures in the project area were constructed before the 1978s and have a high potential for containing asbestos materials and/or lead-based paint. There are no major industries or air emission sources that affect the regional air quality.

4.2.2 Regulatory Setting

The Clean Air Act (CAA) requires that the U.S. Environmental Protection Agency (EPA) establish primary and secondary National Ambient Air Quality Standards (NAAQS) for air pollutants that are considered harmful to the public and environment. Primary NAAQS are established at levels necessary, with an adequate margin of safety, to protect the public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Similarly, secondary NAAQS specify the levels of air quality determined appropriate to protect the public welfare from any known or anticipated adverse effects associated with air contaminants. The pollutants for which EPA has established ambient concentration standards are called criteria pollutants and include ozone (O₃), respirable particulates that have aerodynamic diameters of 10 micrometers or less (PM₁₀), fine particles with aerodynamic diameters less than 2.5 micrometers, (PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb).

The CAA also requires EPA to assign a designation to each area of the United States regarding compliance with the NAAQS. The EPA categorizes the level of compliance or noncompliance as follows: attainment (area currently meets the NAAQS), maintenance (area currently meets the NAAQS but has previously been out of compliance), and nonattainment (area currently does not meet the NAAQS).

The North Dakota Department of Health, Division of Air Quality programs deal with issues that affect the comfort, health, safety and well being of North Dakota citizens and their environment. Enforcement of state and federal environmental laws is accomplished through permitting, inspection, sampling, analytical services and monitoring activities of the division. Programs that may become applicable to the alternatives include:

- ? **Air Quality Program:** The air quality program is responsible for protecting and fostering the state's air quality resources. The program promotes clean-air activities and initiates enforcement action to correct existing air pollution problems.
- ? **Asbestos Control Program:** The Asbestos Control Program was established to ensure that asbestos materials in public and private buildings are managed in a manner to minimize exposure to workers and the public. The program licenses and certifies asbestos workers.
- ? **Lead-Based Paint Program:** The Lead-based Paint Program is established to ensure that lead-based painted materials in Pre-1978 Target Housing and Child-occupied Facilities are managed in a manner to minimize exposure to workers and the public. The program licenses and certifies Lead-based Paint workers and trainers.

4.2.3 Environmental Consequences and Mitigation Measures

4.2.3.1 Alternative 1: No Action

Under the No Action Alternative, no localized or regional effects to air quality are expected.

4.1.3.2 Alternative 2: Grade Raises

During construction there may be temporary increases in equipment exhaust emissions and fugitive dust. However, the temporary increase in equipment exhaust is expected to be negligible as long as the equipment is well maintained and idling is minimized. Asphalt paving emit volatile organic compounds (precursors to O₃) as it cures, but this is also expected to be negligible. The North Dakota Department of Health requires that all necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.

If fugitive dust were to become a problem it can be mitigated by periodic watering of active construction areas, particularly areas close to any nearby sensitive receptors (e.g., hospitals, senior citizen homes, schools). Impacts from fugitive dust are anticipated to be negligible.

4.2.3.3 Alternative 3: Road Relocations

The impacts to air quality from this alternative would be similar to those described for Alternative 2

4.2.3.4 Alternative 4: Alternate Route

This alternative would not result in a noticeable impact to air quality.

4.2.3.5 Alternative 5: Home Acquisition

During the demolishment of structures there would be some short term increase in fugitive dust and vehicular emissions. Mitigation of fugitive dust, if necessary can be accomplished by periodic watering of the demolition site.

The North Dakota Department of Health requires that all necessary measures must be taken to minimize the disturbance of any asbestos-containing materials and to prevent any asbestos fiber release episodes. Any facility that is to be demolished must be inspected for asbestos. Notification of the Departments Division of Air Quality is required before any demolition. Removal of any friable asbestos containing material must be accomplished in accordance with Section 33-15-13-02 of the North Dakota air pollution control rules.

Many buildings in the project area were constructed prior to 1978 and have the potential to have interior and exterior surfaces coated with lead-based paint. The Office of Housing and Urban Development (HUD), as well as other Federal Housing Authorities have implemented requirements for reducing exposure to lead from lead-based paint. If the building is under the control of a Federal Agency, these materials must be handled according to their requirements which may include the use of properly trained individuals for removal and disposal of lead-based paint. If the building is not under the control of a Federal Agency, the lead-based paint should be properly handled to reduce or prevent exposing workers and building occupants to lead.

4.3 Water Resources

4.3.1 Affected Environment

Devils Lake is a closed basin lake; water will only leave the lake through evaporation, plant uptake, ground infiltration, or overflowing when the water level in Stump Lake reaches an elevation of 1459. Because Devils Lake is rising, water levels create a larger volume of water, thereby diluting the concentration of total dissolved solids (TDS). The opposite relationship exists when water levels decrease. It should be noted that the relationship between the water column and bottom sediment is not understood and may affect TDS and nutrient levels differently, depending on the lake level. There is no natural outlet to the basin at current lake levels, so soil particles and other elements carried in by runoff accumulate in Devils Lake.

There are two outlet projects that would route water from Devils Lake to the Sheyenne River. One is the Corps of Engineers 300-cfs outlet project from Pelican Lake to the Sheyenne River, and the other is the State of North Dakota's 100-cfs outlet project from West Bay to the Sheyenne River. The two projects are different in design and operation, but similar in intent. Both projects are designed to remove water from Devils Lake to reduce damages around the lake and to reduce the risk and possibly prevent water reaching a high enough level that there would be a natural overflow out of Stump Lake.

The State of North Dakota's Outlet Project would operate for seven months (May- November), depending on the water quality of West Bay and the Sheyenne River, and the volume of the base flow in the Sheyenne River. The project will discharge a maximum of 100 cubic feet per second (cfs), but it is constrained not to exceed the Sheyenne River channel capacity of 600 cfs. The monitoring will be conducted to ensure this constraint is met as well as to gather more information to determine if the constraint should be modified to more closely meet the water quality standards and objectives on the Sheyenne and Red Rivers. The Devils Lake minimum operating level for this project is elevation 1445 feet above mean sea level (msl).

The USACE preferred plan is the Pelican Lake 300 cubic feet per second outlet plan, which consists of an outlet from Pelican Lake to the Sheyenne River. The preferred plan consists of the following features:

- ? A 300 cfs pump station located just north of Minnewaukan, ND;
- ? An open channel from Pelican Lake to the pump station and a 22-mile buried pipeline from the pump station to the Sheyenne River;
- ? A regulating reservoir to control flows into the Sheyenne River;
- ? A provision to close Channel A during outlet operation and divert a portion of the flows from Dry Lake to the intake area of the outlet in Pelican Lake; and
- ? A provision to limit operation of the outlet to periods when Devils Lake stages exceed elevation 1443.0

Funding for the Corps project has not yet been authorized.

While it is expected that these projects will reduce flooding in the Devils Lake region the potential for flooding to occur still exists which can continue to impacts roads and other infrastructure.

4.3.1.1 Wild and Scenic Rivers

There are no wild and scenic rivers in the project area

4.3.1.2 Floodplains

The designated floodplain elevation for Devils Lake varies from an elevation of 1449 to 1453 depending upon the location around the lake. This variation in designated floodplain is due to a variety of circumstances including consideration of local hydrology and wave action.

4.3.1.3 Wetlands

Devils Lake Wetland Management District is located in the heart of the Prairie Pothole Region of the United States. The northeastern North Dakota counties of Towner, Cavalier, Pembina, Benson, Ramsey, Walsh, Nelson, and Grand Forks are included in the District. Managed by the U.S. Fish and Wildlife Service, the District primarily provides wetland areas needed by waterfowl in the spring and summer for nesting and feeding. Hundreds of thousands of waterfowl also use these wetlands in the spring and fall for feeding and resting during their long migratory flights.

Primary objectives of the Devils Lake Wetland Management District are wetland habitat preservation and improvement, waterfowl and wildlife production, maintenance of migration habitat, and provision of winter cover for resident wildlife. To meet these objectives, the District manages over 45,000 acres of wetlands and other wildlife habitats located on approximately 201 separate Waterfowl Production Areas (WPA's), Lake Alice National Wildlife Refuge (12,200 acres), Sullys Hill National Game Preserve (1,674 acres), Kelly Slough National Wildlife Refuge (1,867 acres), eleven easement refuges, and 154,000 acres of wetland easements. WPA's are lands owned by the U.S. Fish and Wildlife Service and are managed to establish and protect waterfowl breeding and nesting habitats. Easements on private lands protect wetlands from draining, filling, and burning.

4.3.2 Regulatory Setting

The Clean Water Act (CWA) establishes the basic structure for regulating pollutant discharges to navigable waters of the United States. It sets forth procedures for effluent limitations, water quality standards and implementation plans, national performance standards, and point source (e.g., municipal wastewater discharges) and nonpoint source programs (e.g., stormwater). The CWA also establishes the National Pollutant Discharge Elimination System (NPDES) under Sections 401 and 402 and permits for dredged or fill material under Section 404.

The U.S. Army Corps of Engineers (USACE) is charged with regulating the disposal of dredged and fill materials under Section 404 of the CWA. A Section 404 permit from the USACE may be required for the discharge of dredge and/or fill material in waters of the United States. During the permit review process, the USACE determines the type of permit appropriate for the proposed action. Two types of permits are issued by the USACE: (1) General Permits, issued on a state, regional, and nationwide basis and covering a variety of activities, including minimal individual and cumulative adverse affects and (2) Individual Permits, issued for a case-specific activity.

Section 401 of the CWA specifies that states must certify that any activity subject to a permit issued by a federal agency, such as a CWA Section 404 permit, meets all state water quality standards. Water quality certification is also necessary when a project qualifies for a General Permit, even if the activity does not need to be reported to the USACE.

EO 11988 (Floodplain Management) requires federal agencies to take action to minimize occupancy and modification of floodplains. Furthermore, EO 11988 requires that federal agencies proposing to site an action in a 100-year floodplain must consider alternatives to avoid adverse effects and incompatible development in the floodplain. In accordance with 44 CFR Part 9, critical actions, such as developing hazardous waste facilities, hospitals, or utility plants, must be undertaken outside of a 500-year floodplain. If no practicable alternatives exist to siting an action in the floodplain, the action must be designed to minimize potential harm to or within the floodplain. Furthermore, a notice must be publicly circulated explaining the action and the reasons for siting it in the floodplain. When evaluating actions in the floodplain, FEMA applies the decision process described in 44 CFR Part 9, referred to as the Eight-Step Process, to ensure that its actions are consistent with EO 11988. By its nature, the NEPA compliance process involves the same basic decision-making process as the Eight-Step Process.

EO 11990 (Protection of Wetlands) requires federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands. The implementation of EO 11990 is described in 44 CFR Part 9. As with EO 11988, the Eight-Step Process is used to evaluate the potential effects of an action on wetlands. As discussed in the Clean Water Act subsection above, formal legal protection of jurisdictional wetlands is promulgated through Section 404 of the CWA. A permit from the USACE may be required if an action has the potential to affect wetlands.

4.3.3 Environmental Consequences and Mitigation Measures

4.3.3.1 Alternative 1: No Action

This alternative does not include any FEMA action. Therefore, FEMA would not be required to comply with the CWA, EO 11988, or EO 11990.

Alternative 1 does not have the potential to affect water resources.

4.3.3.2 Alternative 2: Grade Raises

The scope of work of this alternative may have some impacts to the floodplains. Grade raises would add additional fill material which would occur in a designated floodplain. Presumably the basis for the need for a grade raise is to elevate the road bed above an elevation that the lake has risen to. FEMA would comply with the agency's regulations Eight-Step Process to determine if the proposed structure is in the floodplain, affects the floodplain, or may be impacted by floods. To help minimize floodplain impacts FEMA would require where appropriate the installation of

culverts to insure the flow of flood waters so the road way does not serve as a dam or other wise impede water movement thus aggravating flooding upstream of the roadway.

While this alternative is not expected to impact wetland because actions are limited to existing roadways certain sites could result in some fill being placed in a wetland. In these situations FEMA would implement a 8-step process to evaluate effects. This alternative would have little if any impact on increasing impervious surfaces, reduce groundwater recharge, and adversely affect water quality through the transmission of sediment, debris, oils, and hazardous substances into surface waters. During construction FEMA would mitigate these impacts by requiring the applicant to apply Best Management Practices (BMPs) to reduce transport of sediment, debris, oils, and hazardous substances.

Actions taken under this alternative would not require an NPDES permit. In some instances the applicant may be required to obtain a Section 404 from the U. S. Army Corps of Engineers.

4.3.3.3 Alternative 3: Road Relocations

This alternative would generate impacts similar to those described for alternative 2.

4.3.3.4 Alternative 4: Alternate Route

This alternative would not have significant impacts to water resources and would not require permits to implement. This alternative would benefit floodplain management by eliminating a portion of the transportation network from the floodplain.

4.3.3.5 Alternative 5: Home Acquisition

This alternative would require the acquired structure to be demolished and disposed of at an approved landfill or disposal site outside of the lake. Demolished structures would be removed from the floodplain which would be a beneficial effect to the floodplain and floodplain management. While this alternative would result in the removal of the residential structure the possibility exists that non-residential buildings on the property could remain and subsequently be subjected to inundation. These structures could present a navigation hazard to boaters. While this alternative is not expected to have significant impacts to wetlands or water resources, if activities involve the discharge of dredge and/or fill material being placed in waters of the United States, a permit from the USACE may be required.

4.4 Biological Resources

4.4.1 Affected Environment

Devils Lake and surrounding lakes consists of a sport fishery and provides habitat for a wide range of aquatic, wildlife, and avian species.

The Devils Lake sport fishery was greatly improved during the 1980s and 1990s with rising water levels. Devils Lake is a brackish lake, affected by lake level fluctuations, which are beneficial to the support of the current fishery. Primary sport fish are walleye, northern pike, yellow perch, and white bass. White suckers and black bullheads are also present but not at population levels sufficient to degrade the quality of the sport fishery. At lower lake levels, because of low natural reproduction due to brackish water quality, most of the game fish populations were maintained through stocking. With current high lake levels that have improved the water quality of the lake, many species are experiencing successful natural reproduction. Forage species such as fathead minnows have increased dramatically with the high lake levels.

Devils Lake Wetland Management District supports all waterfowl species found in the Prairie Pothole Region. Mallard, gadwall, and blue-winged teal are the most abundant ducks, with several other species of diving and dabbling ducks common to the area. Giant Canada geese have been reintroduced and efforts are underway to expand their range. Concentrations of waterfowl and other migratory birds gather in the District each spring and fall, including snow geese.

Wildlife Protection Area's (WPAs) also provide habitat for many resident species of wildlife, including white-tailed deer, pheasants, turkeys, sharp-tailed grouse, Hungarian partridge, and an occasional moose. Wooded, glacial moraine hills and native grasslands in the region are home for bison, elk, white-tailed deer, prairie dogs, turkeys, waterfowl, and other native wildlife.

Sullys Hill National Game Preserve

Sullys Hill National Game Preserve is located in Benson County on the south shore of Devils Lake. Consisting of 1,674 acres of wooded hills and open meadows, it is one of four refuges managed by the U.S. Fish and Wildlife Service for American bison and elk.

Lake Alice National Wildlife Refuge

Lake Alice National Wildlife Refuge is located in Ramsey and Towner Counties near the former town site of Churches Ferry. Long recognized as a major waterfowl concentration point during spring and fall migrations, Lake Alice supports significant numbers of nesting waterfowl. The Service now manages 11,200 acres at Lake Alice for waterfowl production, and for protection and improvement of wetland and wildlife habitat.

Kellys Slough National Wildlife Refuge

Kellys Slough National Wildlife Refuge was established in 1936 as a refuge and breeding ground for migratory birds and other wildlife.

Wildlife in the Devils Lake basin is closely associated with water and wetlands. Shallow-water wetland habitats are the most valuable habitat types for waterfowl. Many wildlife and waterfowl species utilize lakes in the Devils Lake chain and surrounding habitats. Stump Lake is a staging

and breeding area for waterfowl and shorebirds. In 1905, President Theodore Roosevelt declared a portion of the west bay of Stump Lake a National Reservation, making it one of the oldest refuges in the nation.

It is estimated that there are about 200,000 acres of Conservation Reserve Program (CRP) lands within the basin. These lands provide significant wildlife habitat and reduce the volume of runoff into the coulees that flow into the lake.

North Dakota has developed a list of natural heritage sites, which exhibit significant natural or cultural values. These include wildlife and vegetation species, vegetation types, and aquatic resources. Over 300 such sites are listed around Devils Lake and within ¼ mile of the Sheyenne and Red Rivers.

The State of North Dakota has 8 species of animals and 1 species of plants listed as federally threatened or endangered. These include:

- American burying beetle (*Nicrophorus americanus*) – endangered
- Whooping crane (*Grus Americana*) – endangered
- Eskimo curlew (*Numenius borealis*) – endangered
- Bald eagle (*Haliaeetus leucocephalus*) – threatened
- Piping plover (*Charadrius melodus*) – threatened
- Pallid sturgeon (*Scaphirhynchus albus*) – endangered
- Least interior tern (*Sterna antillarum*) – endangered
- Gray wolf (*Canis lupus*) - endangered
- Western prairie fringed orchid (*Platanthera praeclara*) threatened

4.4.2 Regulatory Setting

The Endangered Species Act (ESA) establishes a federal program to conserve, protect, and restore threatened and endangered plants and animals and their habitats. Section 7 of the ESA mandates that all federal agencies must ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of critical habitat for these species. To accomplish this, federal agencies must consult with the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) when taking action that has the potential to affect species listed as endangered or threatened or proposed for threatened or endangered listing. If an action is determined to cause a potential take of migratory birds then a consultation process with the USFWS needs to be initiated to determine measures to minimize or avoid these impacts. This consultation should start as an informal process.

The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandoning eggs or young) may be considered a take and is potentially punishable by fines and/or imprisonment. If an action is determined to cause a potential take of migratory birds then a consultation process with the

USFWS needs to be initiated to determine measures to minimize or avoid these impacts. This consultation should start as an informal process.

The Fish and Wildlife Coordination Act (FWCA) was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal agencies to take into consideration the effect that water-related projects would have on fish and wildlife resources, take actions to prevent loss or damage to these resources, and provide for the development and improvement of these resources. For an action resulting in the control or modification of a body of water, the federal agency must consult with the USFWS or NOAA Fisheries (as appropriate) and the State of North Dakota to develop measures to mitigate action-related losses of fish and wildlife resources. These measures must be incorporated in the plans for the action.

The Magnuson-Stevens Fishery Conservation and Management Act (as amended), also known as the Sustainable Fisheries Act, requires all federal agencies to consult with the NOAA Fisheries on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The EFH provisions of the Sustainable Fisheries Act are designed to protect fisheries habitat from being lost due to disturbance and degradation.

EO 13112 (Invasive Species) was created to prevent the introduction of invasive species and to provide for their control. Under this order, the federal government may “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.”

4.4.3 Environmental Consequences and Mitigation Measures

4.4.3.1 Alternative 1: No Action

This alternative does not include any FEMA action. Therefore, FEMA would not be required to consult with USFWS, or NOAA Fisheries to comply with the ESA, MBTA, FWCA, or the Sustainable Fisheries Act. Similarly, compliance with EO 13112 is not required.

Alternative 1 does not have the potential to affect sensitive biological resources.

4.4.3.2 Alternative 2: Grade Raises

This alternative consists of performing work on existing roadways. The actions under this alternative are not expected to affect sensitive biological resources. If FEMA determines that the project has this potential it will initiate an expedited review process. FEMA would notify USFWS or NOAA Fisheries of the project location and the project description. USFWS or NOAA Fisheries would respond after receiving this information to notify FEMA if additional consultation is required. If USFWS or NOAA Fisheries determines that additional consultation is

required under Section 7 of the ESA, MBTA, FWCA, or the Sustainable Fisheries Act, the results of this consultation would be documented in a memorandum to this PEA or in a SEA. If USFWS or NOAA Fisheries determines that no additional consultation is required, FEMA would consider the project to be in compliance with Section 7 of the ESA, MBTA, FWCA, and the Sustainable Fisheries Act and no further documentation is required.

4.4.3.3 Alternative 3: Road Relocations

Where this alternative consists of performing work in previously undisturbed areas, the scope of work may have the potential to affect threatened or endangered species or their habitats, migratory birds, natural waterways, or EFH. If FEMA determines that the project has this potential it will initiate an expedited review process. FEMA would notify USFWS or NOAA Fisheries of the project location and the project description. USFWS or NOAA Fisheries would respond after receiving this information to notify FEMA if additional consultation is required. If USFWS or NOAA Fisheries determines that additional consultation is required under Section 7 of the ESA, MBTA, FWCA, or the Sustainable Fisheries Act, the results of this consultation would be documented in a memorandum to this PEA or in a SEA. If USFWS or NOAA Fisheries determines that no additional consultation is required, FEMA would consider the project to be in compliance with Section 7 of the ESA, MBTA, FWCA, and the Sustainable Fisheries Act and no further documentation is required.

4.4.3.4 Alternative 4: Alternate Route

This alternative consists of performing work on existing roadways. The actions under this alternative are not expected to affect sensitive biological resources. If FEMA determines that the project has this potential it will initiate an expedited review process. FEMA would notify USFWS or NOAA Fisheries of the project location and the project description. USFWS or NOAA Fisheries would respond after receiving this information to notify FEMA if additional consultation is required. If USFWS or NOAA Fisheries determines that additional consultation is required under Section 7 of the ESA, MBTA, FWCA, or the Sustainable Fisheries Act, the results of this consultation would be documented in a memorandum to this PEA or in a SEA. If USFWS or NOAA Fisheries determines that no additional consultation is required, FEMA would consider the project to be in compliance with Section 7 of the ESA, MBTA, FWCA, and the Sustainable Fisheries Act and no further documentation is required.

4.4.3.5 Alternative 5: Home Acquisition

This alternative is not expected to have the potential to affect sensitive biological resources.

4.5 Cultural Resources

4.5.1 Affected Environment

Existing knowledge of the Devils Lake Basin indicates that the area has held a unique position in the history and prehistory of North Dakota. The central location of the Basin between the forested areas of the east, the Missouri River to the west, and the James and Sheyenne rivers to the south, along with the constant availability of water, food, and game on the shores of Devils Lake provided a focal point for the prehistoric and early inhabitants of North Dakota.

Only portions of the Devils Lake shoreline (e.g., recreation areas, Grahams Island State Park, City of Devils Lake levee alignments) between elevations 1444 and 1465 have been surveyed for cultural resources. Known cultural resource sites along the Devils Lake shoreline have been discovered between elevations 1444 and 1447. The sites include nine prehistoric archeological sites, six historic archeological sites, and sixteen architectural/standing structure sites. Four of these sites have been determined eligible for the National Register of Historic Places and two National Register listed sites (Benson County Courthouse and Grace Episcopal Church in Minnewaukan). In the Corps EIS it is noted that there are also unverified leads to four prehistoric archeological sites, eight historic archeological sites, and twelve architectural sites in the Devils Lake area between elevations 1444 to 1465.

Less than 10 percent of the Stump Lakes vicinity and the channel connecting East Devils Lake with Stump Lakes between elevations 1407 and 1465 have been surveyed for cultural resources. Three small areas have been surveyed along Tolna Coulee. One prehistoric archeological site and one historic archeological site are recorded for the Stump Lakes area between elevations 1407 and 1447. One additional prehistoric archeological site and one architectural/standing structure site are recorded from elevations 1447 to 1465. There are no sites recorded for the connecting channel below 1460. One prehistoric archeological site is recorded for Tolna Coulee. There are no National Register eligible or listed sites for these areas. There is one unverified lead to a prehistoric archeological site between 1460 and 1465 at Stump Lakes and an unverified lead to a historic archeological site near the mouth of Tolna Coulee.

The Spirit Lake Tribe Indian Reservation is located south of Devils Lake. The reservation encompasses about 383 square miles between Devils Lake and the Sheyenne River. Numerous cultural sites and resources are located on the reservation, and traditional cultural properties are important resources. Native Americans use plants and animals for food, medicinal, and ceremonial purposes. Some of the important species include bald eagle, ironwood, sage, cedar, wild rice, and tobacco.

4.5.2 Regulatory Setting

The National Historic Preservation Act (NHPA) declares federal policy to protect historic sites and values in cooperation with other nations, states, and local governments. Subsequent amendments designated the State Historic Preservation Officer (SHPO) as the individual responsible for administering state-level programs. Section 106 of the NHPA and implementing regulations (36 CFR 800) outline the procedures to be followed in the documentation,

evaluation, and mitigation of impacts for cultural resources. The Section 106 process applies to any federal undertaking that has the potential to affect cultural resources. The Section 106 process includes identifying significant historic properties and districts that may be affected by an action and mitigating adverse effects to properties listed, or eligible for listing, in the National Register of Historic Places (NRHP) (36 CFR 60.4).

4.5.3 Environmental Consequences and Mitigation Measures

4.5.3.1 Alternative 1: No Action

This alternative does not include any FEMA undertaking. Therefore, no cultural resources review would be required of FEMA under Section 106 of the NHPA.

4.5.3.2 Alternative 2: Alternative 2: Grade Raises

Since this alternative would consist of working in a previously disturbed ROW it is felt there is a low probability that any previously undisturbed historic properties or culture resource sites would be impacted. If FEMA finds that an undertaking may affect a historic property, the agency will undertake necessary consultation under Section 106 of the NHPA with SHPO, and document the consultation, including stipulated mitigation measures, in either a memorandum to this PEA or a SEA.

4.5.3.3 Alternative 3: Road Relocations

This Alternative involves new construction in areas that may have not been previously disturbed. The scopes of work under this alternative may have the potential to affect cultural resources by causing direct or indirect effects to a potentially historic, cultural resource in the vicinity. It can also involve ground-disturbing activity that could disturb subsurface cultural resources. If FEMA finds that an undertaking may affect a historic property, the agency will undertake necessary consultation under Section 106 of the NHPA with SHPO and if appropriate Tribal Historic Preservation Officer (THPO), and document the consultation, including stipulated mitigation measures, in either a memorandum to this PEA or a SEA.

4.5.3.4 Alternative 4: Alternate Route

Since this alternative would consist of working in a previously disturbed ROW it is felt there is a low probability that any previously undisturbed historic properties or culture resource sites would be impacted. If FEMA finds that an undertaking may affect a historic property, the agency will undertake necessary consultation under Section 106 of the NHPA with SHPO, and document the consultation, including stipulated mitigation measures, in either a memorandum to this PEA or a SEA.

4.5.3.5 Alternative 5: House Acquisition

Many homes in the project area were constructed over 50-years ago. This Alternative involves demolishing homes which may be eligible for the National Register of Historic Places. The scopes of work under this alternative may have the potential to affect cultural resources by causing direct or indirect effects to a potentially historic, cultural resource in the vicinity. If FEMA finds that an undertaking may affect a historic property, the agency will undertake necessary consultation under Section 106 of the NHPA with SHPO and if appropriate THPO, and document the consultation, including stipulated mitigation measures, in a memorandum to this PEA, a SEA or in a Memorandum of agreement with the SHPO, if needed.

4.6 Socioeconomics

4.6.1 Affected Environment

The dominant land use around Devils Lake up to elevation 1463 is agriculture, with 48 percent of the land classified as such. Other land uses include woodland (5 percent), grassland (21 percent), wetland (25 percent), and urban (1 percent). Agriculture continues to be the dominant sector of the Devils Lake area economy. In 1996, agriculture accounted for 48 percent of the area's economy, followed by Federal Government outlays (38 percent), tourism (10 percent), and manufacturing (3 percent). A slight offset of the massive flood damages is the improved recreational fishery in the lake. Because of rising lake levels, fishing and waterfowl hunting have prospered. Devils Lake, known as one of the premier year-round fishing lakes in the Upper Midwest, has experienced an increase in the number of people from North Dakota and neighboring States to fish and hunt its expansive lake waters. This boom has helped mitigate damage to the local economy due to farmland loss. Tourism has been the fastest growing component of the area's economic base, increasing from 3 percent in 1980 to 10 percent in 1996.

Farming and recreation are the principal economic drivers in the project area. The main crop grown is durum wheat. Other important crops are sunflowers, spring wheat, barley, grass-legume hay, and flax. Sunflowers have become an important cash crop in the last few years. They are grown mainly for oil production. Barley is grown for feed and malting. Raising livestock is a minor enterprise.

Rising lake levels have severely affected the rural economy around Devils Lake. Many of the farms and ranches bordering the lake have been forced to abandon operations because of the loss of pasture and croplands. At a current approximate lake stage of elevation 1447, the lake covers 137,000 acres, an increase of about 93,000 acres (approximately 145 square miles) since 1993. At an average land value of \$600 per acre for non-urban lands, this represents a loss of over \$55 million. Because agriculture is the cornerstone of the local economy, the current set of problems could have regional ramifications.

An inventory of buildings and infrastructure that could be affected by a continued lake rising was completed by FEMA and the State of North Dakota (Devils Lake Risk Assessment, 2002). The baseline water elevation at the time the Risk Assessment database was compiled was 1447. The inventory excluded structures in the area protected by the City of Devils Lake levee. The U. S.

Army Corps of Engineers (USACE) estimates that there is over \$767 million in property and infrastructure at risk between the current lake level of 1447 and elevation 1460 (Devils Lake EIS). The most valuable items are the roads and highways in the basin, which the Corps estimated to have a total replacement value of \$580 million. Also, an additional 163,000 acres of land would be flooded at a lake level of 1460.

Based upon the Devils Lake Risk Assessment there are approximately 3,000 structures which consist of residential, commercial and public buildings in the project area that are located between elevation 1447 and 1465. Table 1 lists by elevation the number of houses in the affected counties at risk of flooding and their estimated value based upon 2004 local real estate values².

Table 1 Estimated Value of Homes at Risk of Flooding in the Project Area

Flooded at Elevation	COUNTY	2004 Value	Number of Houses
1447	BENSON, NELSON & RAMSEY	\$2,677,000.00	27
1449	BENSON & RAMSEY	\$3,738,000.00	40
1451	BENSON, RAMSEY & TOWNER	\$4,934,000.00	51
1453	BENSON, RAMSEY & TOWNER	\$4,017,000.00	37
1455	BENSON, RAMSEY & TOWNER	\$6,372,000.00	64
1460	BENSON, RAMSEY, NELSON & TOWNER	\$25,092,000.00	228
1465	BENSON, RAMSEY, NELSON & TOWNER	\$25,022,000.00	235
Total		\$71,852,000.00	682

Population has been declining in the basin for the past two decades. All of the counties had population decreases over the period 1980-1996. All counties registered substantial out-migration during the 1980s.

Out migration from the project area has in part been driven by rising lake levels flooding farms, homes and businesses. Since the mid-1990's FEMA has bought or relocated to higher elevations over 300 homes. Acquisition of homes has contributed to the shift in demographics of the study area. In 1996, more than 20 percent of the basin residents were over age 65, compared to 14.5 percent statewide. A major factor contributing to the decline of the smaller communities in the basin is the continuing decrease in the number of farms in all of the area's counties. From 1982 to 1992, farm numbers in the basin decreased 20 percent, with the decline ranging from 9.6 percent in Eddy County to 25.9 percent in Ramsey County. Because most of the area's

² There are additional structures below elevation 1447 in the Stump Lake area which are at risk of flooding that were not captured in the initial Devils Lake Risk Assessment, therefore the estimates for Nelson County may understate the number and value of structures at risk.

communities function primarily as agricultural trade centers, declining farm numbers reflect a declining clientele base for many trade and service businesses.

4.6.1.1 Environmental Justice E. O. 12898

The population composition of project area counties is profiled in the Devils Lake EIS. The profile includes total population, age characteristics (e.g., population under age 18 and population over age 65), and ethnicity (e.g., white, black, Native American, and other). The county-level profile can be used to identify areas of potential environmental justice concern. Benson County, which contains the Spirit Lake Tribe Indian Reservation, is an area that has a Native American population that accounts for 48 percent of the total county population, and the county has a high percentage (36 percent) of population under the age of 18. This is considered to be a disproportionate distribution. The proximity of the reservation to the lake and potential for roads on the reservation to flood due to rising lake levels warrants consideration of the potential environmental justice implications of the alternatives.

The 1997 median household income for the counties in the Devils Lake study area was \$26,306. The county population with incomes below the poverty level was 17.3%. Benson County had the lowest median income at \$21,833 and 28.7% of the county population had income below poverty levels. The poverty threshold is dependent on family size. In 2000, the threshold for an average family of four was \$17,603. Tract-level income data from the 2000 Census are not yet available. For this reason, county-level income data are used for the environmental justice analysis.

Spirit Lake Tribe Indian Reservation

According to the 2000 Census, the total population on the reservation is 4,435 persons, which represents a population increase of 24 percent over the 1990 population of 3,574. Tribal trust acreage of the reservation is 53,239 acres, or 83.19 square miles. Residents are scattered throughout the reservation with concentrations in the communities of Fort Totten, St. Michael, Crow Hill, and Tokio/Wood Lake. Three small, incorporated towns, Warwick, Hamar, and Oberon, are also located within the reservation boundaries and have primarily Native American populations. Based on the 2000 Census information, the median age of the reservation resident population is approximately 22.8 years. This is 13.4 years younger than the North Dakota State median age of 36.2 and 12.5 years younger than the United States median age of 35.3. The average household size on the reservation is 3.53, compared to 2.41 for North Dakota State and 2.59 for the United States.

Agriculture constitutes a major economic force for the tribe with much of it through the leasing of lands to outside interests. Both tribal and federal governments are a major source of employment, and the tribe maintains a 40-acre industrial park and owns two manufacturing enterprises that employ approximately 300 people. There is a gaming casino on the reservation. Other attractions include the Fort Totten historical site, Sullys Hill National Game Preserve, and an archeological site.

The four major reservation communities contain tribal low-rent housing units, HUD homes, and mutual self-help homes. In 1988, 45 HUD housing units were constructed. Rural farmsteads

consist of privately owned homes. Government quarters are maintained almost exclusively by the Bureau of Indian Affairs (BIA).

Employment

Further lake level rise would have an impact on employment induced in part by demolition or relocation of more homes, as well as additional infrastructure work on levees, roads, and municipal systems. Some of this job creation would occur with or without implementation of the alternative plans. Conversely, further lake level rise may have negative effects on employment due to impacts on the local farm economy.

4.6.2 Regulatory Setting

EO 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations) requires federal lead agencies to ensure rights established under Title IV of the Civil Rights Act of 1964 when analyzing environmental effects. FEMA and most federal lead agencies determine impacts to low-income and minority communities as part of the NEPA compliance process. Agencies are required to identify and correct programs, policies, and activities that have disproportionately high and adverse human health or environmental effects on minority or low-income populations. EO 12898 also tasks federal agencies with ensuring that public notifications regarding environmental issues are concise, understandable, and readily accessible.

EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks) required federal agencies to identify and assess health risks and safety risks that may disproportionately affect children. As with EO 12898, FEMA and most federal lead agencies determine impacts to children as part of the NEPA compliance process. Agencies must ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

4.6.3 Environmental Consequences and Mitigation Measures

As part of the Devils Lake EIS the U.S. Environmental Protection Agency conducted an Environmental Justice analysis in the project area. It found that, in the Devils Lake Region, there is one federally recognized tribe, the Spirit Lake Nation Sioux Tribe. Other areas of Devils Lake do not include federally recognized tribes or significant populations of communities of color. Based on the percent of those living in poverty as compared to the state average, areas west and southwest of Devils Lake are considered low-income communities, according to U.S. Census data.

4.6.3.1 Alternative 1: No Action

As the lake rises roads will continue to be at risk of being flooded and as roads are flooded homes are at risk of being isolated. Under the No action alternative impacted roads would not be eligible for assistance from FEMA under the Public Assistance program. There is no requirement for compliance with EOs 12898 and 13045 since there are no federal actions.

4.6.3.2 Alternative 2: Grade Raises

Homes would continue to be at risk of being flooded due to rising lake levels but the road network would be maintained. During the construction period this alternative may provide some short term benefits by providing construction jobs and a multiple effect of increased expenditures in the local economy.

This alternative will not have disproportionately high and adverse human health and environmental effects on minority or low-income populations in three of the four counties. Three of the four counties, which would be affected by grade raises, have incomes and poverty levels that are consistent with State (North Dakota) and U.S. averages. Therefore, disproportionate economic impacts on low income and minority groups are not expected in these counties. However, Benson County is exceptionally low in terms of median income and relatively high in terms of percentage of county population living in poverty. There are roads that are at risk of flooding due to rising lake levels. Construction of grade raises could affect Native Americans disproportionately during the construction period. Unfortunately, the 2000 Census data is not precise enough to permit accurate alignment with areas potentially affected by this alternative. The net effect of this alternative on Native Americans may be positive, but there is a potential that Native Americans may be disproportionately affected by adverse effects during construction. These effects could include extended travel times due to construction delays or the need to use an alternate route. This alternative will not likely produce health risks and safety risks that may disproportionately affect children.

Efforts would be made during any construction to minimize short-term disruption to the local transportation system. Low income and minority populations may actually benefit during the construction process through the provision of construction jobs and multiplier effects of expenditures in the local economy. Any impacts to low income or minority populations are expected to be short-term and not significant.

4.6.3.3 Alternative 3: Road Relocations

Homes would continue to be at risk of being flooded due to rising lake levels but the road network would be maintained. Flooded roads would be abandoned. The potential does exist that these abandoned roads could still be eligible for future FEMA funding under a subsequent disaster declaration. Homes that are isolated by abandoning flooded roads and for which the relocated road did not provide access would not be eligible for FEMA support under this

alternative through the PA Program. During the construction period this alternative may provide some short term benefits by providing construction jobs and a multiple effect of increased expenditures in the local economy.

Construction of new road segments that are longer than the existing roadway could potentially increase travel distances and time. Extended travel distances and time increases higher fuel consumption due to longer commutes around the lake, and additional energy consumption associated with construction activities.

The impacts of this alternative will be similar to those described under Alternative 2. In addition, this alternative would potentially impact agricultural production at some locations. The agricultural effects anticipated to result from where construction of new roads requires acquiring farmland and converting it into a permanent roadway. Agricultural land conversions may adversely impact low income and minority population in Benson County.

4.6.3.4 Alternative 4: Alternate Route

Under this alternative homes would continue to be at risk of being flooded. The existing road network would not be maintained as roads are flooded. This alternative may have disproportionately high and adverse human health and environmental effects on the population of the project area including minority or low-income populations in certain location. The Devils Lake EIS indicates that re-routing of traffic due to historic flooding has caused lengthy and time consuming impacts that have caused concerns about access to medical services in a timely manner and access by emergency vehicles into residences.

Extended travel distances and time increases higher fuel consumption due to longer commutes around the lake.

This alternative would not likely produce health risks and safety risks that may disproportionately affect children.

4.6.3.5 Alternative 5: Home Acquisition

FEMA would provide resources to help acquire homes at risk of being flooded to help move residences out of harms way. This alternative would not preserve the existing road network to the acquired home because the flooded roads would be abandoned. This alternative may have disproportionately high and adverse human health and environmental effects on the population of the project area including minority or low-income populations. As part of the acquisition process existing roadways would be abandoned potentially increasing travel times and distances. The impacts would be similar to those of alternative 4.

Acquisition of homes could have effects on property values of adjacent property to the acquired home because of the secondary effects of road abandonment and modification of other infrastructure systems.

Home acquisitions could have some fiscal effects on local governments by allowing rising lake levels to inundate areas including agriculture lands surrounding structures with reductions in property tax revenues to county governments. It is assumed that the projects would be cost-shared by the State of North Dakota.

4.7 Transportation Facilities

4.7.1 Affected Environment

The rising lake has caused major flood-related damages and associated costs to transportation facilities (Federal and State highways, county and township roads, railroads, etc.). Since the current lake rise began in 1993, the Federal Highway Administration, Bureau of Indian Affairs (BIA), North Dakota Department of Transportation, counties, and townships have spent and programmed over \$140 million for road raises and repairs and bridge replacements. The list of key roads involved includes U.S. Highway 281; North Dakota Highways 19, 20, and 57; BIA Roads 1, 2, 5, 6, and 9; Woods-Rutten Road; Grahams Island Road. In addition, FEMA under numerous Presidentially declared disasters raised numerous township and county roads that are not eligible for other federal funding. Some of these roads have been rebuilt three or four times, but at times the lake has risen as fast as construction crews have raised the roads. Bridge replacements are also necessary to accommodate higher flows along streams entering Devils Lake. New bridges at Big Coulee on U.S. Highway 281 and Highway 19 were constructed in 1998. High lake levels continue to threaten other area bridges.

In addition, millions of dollars in costs have been incurred by businesses and the general public due to the extra travel distance and time because of detours from permanent and temporary road closures and almost constant construction as agencies respond to the rising lake. In 1997, the lake level rose 5 feet and cut off the Highway 20 and Highway 57 crossings of The Narrows, the major routes between the Spirit Lake Tribe Indian Reservation, and the City of Devils Lake. The resulting detours to the east via Woods-Rutten Road and west via Highways 19 and 281 added up to 50 miles of one-way travel for school buses, emergency vehicles, employees and customers of businesses.

Gravel surfaces and potholes along roads undergoing grade raises and along secondary roads carrying traffic volumes and loads (including heavy construction equipment) beyond their design capacity have caused an unquantified increase in vehicle wear and tear. In addition, transportation safety issues have increased because of visibility problems on long stretches of dusty road raises, miles of causeways with water on both sides of the road instead of grassy ditches, extra miles of icy roads from wind-blown spray, and wave-related erosion and sub-bases softened from a high water table. In 1998 and 1999, train derailments and accidents occurred because of the softened rail beds.

Access to Health Care and Emergency Services: The City of Devils Lake serves as the principal health care center for the lake region. The rising lake has induced extensive road grade raising around the lake. Many lakeside roads have been closed temporarily during the construction

periods others have been abandoned. This has significantly decreased access of some communities to emergency and non-emergency health care. Longer travel times to health care facilities have created significant inconvenience and anxiety in affected communities, especially for their senior citizens who have greater health care needs and greater difficulty with travel.

The rising lake levels will impact the regional health care service of the City of Devils Lake but the degree of this impact is uncertain due to the dilemma posed by flooded roads. However, access to health care is one of the most compelling arguments for maintaining transportation access around the lake.

Effects on School-Age Children: These transportation problems have similarly affected some school children that are bused around the lake to schools in the City of Devils Lake. When there has been lake-induced road construction during the school year, the commutes of some children have been dramatically increased.

4.7.2 Regulatory Setting

The regulatory setting for FEMA to provide federal assistance under any of the alternatives, except No Action, is established in the Stafford Act. FEMA's Public Assistance Program provides supplemental Federal disaster grant assistance for the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain Private Non-Profit (PNP) organizations. The Federal share of assistance is not less than 75% of the eligible cost for emergency measures and permanent restoration. The State determines how the non-Federal share (up to 25%) is split with the applicants and the State.

Eligible applicants include the States, local governments, Indian tribes and certain PNP organizations. To be eligible, the work must be required as the result of the disaster, be located within the designated disaster area, and be the legal responsibility of an eligible applicant. Work that is eligible for supplemental Federal disaster grant assistance is classified as either emergency work or permanent work.

Emergency Work includes debris removal and emergency protective measures performed to eliminate or reduce immediate threats to the public. Permanent Work includes work to restore an eligible damaged facility to its pre-disaster design.

Before FEMA can take any action under the Public Assistance Program there must be a Presidentially declared disaster. Further, FEMA may only fund road projects that are not eligible for funding from other Federal agencies. Roads that are part of the Federal Aid System (FAS) and roads maintained by the Bureau of Indian Affairs (BIA) are not eligible for FEMA funding.

4.7.3 Environmental Consequences and Mitigation Measures

4.7.3.1 Alternative 1: No Action

As the lake rises roadways will continue to flood and the road network in the project area would not be maintained. Under the No Action alternative flooded roads would not be funded by

FEMA. Any actions to maintain or improve the road system would be provided by the State and/or local transportation agencies. This alternative would result in significant adverse impacts due to increased travel times and increasing traffic volumes as travel patterns change in response to flooded roads.

4.7.3.2 Alternative 2: Grade Raises

This alternative would maintain the existing road network and would not result in increased traffic volume. However, as the lake continues to rise, more roads around the lake will be affected. At an elevation of 1465 road raises would be required on approximately 350 miles and would cost approximately \$260 million. A greater length of roadways will have smaller shoulders along raised embankments with steep walls dropping into the lake. Additional road construction may re-create safety hazards associated with recent road raises, including dusty driving conditions with low visibility, higher volumes of construction vehicles, and wave overwash of roadways with consequent low visibility, icy conditions, and debris problems. These roadways may be particularly dangerous during winter weather conditions when visibility is more restricted.

The lake could also threaten freight and passenger rail lines on the north side of the lake. Maintaining the existing road system has implications on the maintenance of railroad grade crossing. Burlington Northern and Amtrak have committed to a track raise, which should significantly reduce safety risks and potential economic effects.

4.7.3.3 Alternative 3: Road Relocations

This alternative would generally maintain the existing road network and maintain existing traffic patterns and volumes. In some cases travel times and distances may increase. Road relocations would have a short-term impact during construction similar to those described for Alternative 2. However, longer term impacts may mitigate some of the impacts of Alternative 2 by moving the roadway away from the effects of the lake such as wind blown freezing water and eliminating the causeway effect.

4.7.3.4 Alternative 4: Alternate Route

This Alternative would not maintain the existing road network and may result in increased traffic volumes as a result of the rerouting traffic onto non-flooded roadways and abandoning flooded roads. This alternative would benefit floodplain management by eliminating a portion of the transportation network from the floodplain. This alternative has the potential for having some impacts similar to Alternative 1. Increased distances and travel times may adversely impact access to health care and emergency services and school children.

4.7.3.5 Alternative 5: Home Acquisition

This alternative would not maintain the existing road network and may result in increased traffic volumes as a result of the rerouting traffic onto non-flooded roadways and abandoning flooded roads. This alternative would benefit floodplain management by eliminating a portion of the transportation network and removing some structures from the floodplain. Abandoning roadways would have adverse impacts similar to Alternative 1 and Alternative 4.

4.8 Public Services and Utilities

4.8.1 Affected Environment

Public services and utilities are grouped into three categories: urban, regional and rural. Urban public services and utilities are operated and maintained by the city and town they serve such as water and sewer systems. Regional services and utilities are operated and maintained by utility service company such as electric cooperatives that can service both urban and rural costumers. Rural services are provided by the individual user and include individual or small community septic systems and potable water wells.

Within the project area all three categories of public service and utility operate. The major urban areas include the City of Devils Lake, City of Minnewaukan, and Fort Totten. Smaller urban centers include St. Michael, Crow Hill, and Tokio/Wood Lake. Regional entities include: Ramsey County Rural Utilities, Western Area Power Administration, United Power Association, Otter Tail Power Company, Northern Plains Electric Cooperative, and North Dakota Telephone Company. Rural areas include farms, rural residential properties and small subdivisions.

Rising lake levels have affected residences and utilities and communities around Devils Lake. Sewage facilities in Minnewaukan and at the Spirit Lake Tribe Indian Reservation have been affected, requiring modification or relocation to remain functional. In addition, many private wells and septic systems have been adversely affected. Communities like Minnewaukan, faced with rising waters and infrastructure problems, have held meetings in search of residents' opinions and to discuss options for the city. Among the alternatives discussed were rerouting a portion of U.S. Highway 281, building a dike to protect the city, buying out individual homes and property, and relocating the city.

The Spirit Lake Tribe Indian Reservation, located on the southwest side of Devils Lake, also faces flooding difficulties. Sewer systems and water supplies have been affected as residents have not been able to use or drink the water. Other infrastructure both on and off the reservation affected by the rising lake includes scores of individual septic systems and private wells.

Rising lake levels have also affected the Ramsey County Rural Utilities sanitary sewer system. To date, 204 homes have been forced to disconnect as houses, sewer lines, and lift stations were lost to the rising lake, jeopardizing the economic viability of the whole system. Also, the system's normal sewage volume more than doubled because lake water flowed into inundated manholes and infiltrated pipeline joints. Because the rural sewer system discharges into the City of Devils Lake wastewater treatment facility, the rural system's excess flows caused the city's

facility to operate above design capacity, compromising retention times. Federal funds were made available through emergency supplemental appropriations for repairs and preventive measures for the rural sewer system.

Western Area Power Administration, United Power Association, Otter Tail Power Company, Northern Plains Electric Cooperative, and North Dakota Telephone Company have miles of power and telephone lines running under or around the lake or on towers across the lake. These companies have already incurred or foresee incurring millions of dollars in expenditures to relocate, replace, and elevate equipment and facilities.

4.8.2 Regulatory Setting

Recognizing the unusual flooding situation at Devils Lake, the FEMA issued a “Continuous Lake Flooding Waiver” under its National Flood Insurance Program (NFIP) from 1996 to 1999. Under this program, homes below the maximum lake level forecasted by the National Weather Service for that year were considered total losses before the lake reached them. This allowed structures to be relocated before the ground became too soft for moving equipment or homes were destroyed by wave or ice action. Since 2000, FEMA has added a closed lake basin endorsement to its flood insurance policies. This endorsement allows for similar actions. Since 1996, the NFIP has paid over \$23.5 million on approximately 700 claims. In addition, in 1997 and 1998, the BIA and the Spirit Lake Tribe moved 99 reservation homes at a cost of approximately \$11 million. They anticipate having to move an additional 65 homes over the next few years.

Property owners outside the city levee and near shorelines rely on flood insurance and, to a limited extent, on physical barriers, such as sandbag dikes, to protect their properties.

4.8.3 Environmental Consequences and Mitigation Measures

4.8.3.1 Alternative 1: No Action

This alternative does not include any FEMA action. Alternative 1 does have the potential to affect public services and utilities because risk lake levels would continue to adversely impact the ability to provide service.

4.8.3.2 Alternative 2: Grade Raises

This alternative could impact utilities that are in or adjacent to the raised roadway. Separation limits between power transmission lines and the road may be reduced below acceptable standards creating a safety hazard. Buried utilities under the road way would have additional over burden on top of them making access to them more expensive if repairs or maintenance were required. This alternative may be able to continue to provide access to utilities for operation and maintenance activities.

4.8.3.3 Alternative 3: Road Relocations

This alternative could impact utilities by limiting or eliminating access to utilities that are in or adjacent to the flooded road that is being abandoned. Relocation of utilities may be required to maintain service. Relocations could produce short term disruptions to customers.

4.8.3.4 Alternative 4: Alternate Route

Impacts to utilities under this alternative would be similar to those described in Alternative 3.

4.8.3.5 Alternative 5: Home Acquisition

Home acquisitions will impact rural electric distribution lines by taking users off of the network resulting in impacts to public facilities or services beyond those previously discussed. Other impacts would be similar to those described in Alternative 3.

4.9 Noise and Visual resources

4.9.1 Affected Environment

The principal industry of the region is farming and ambient noise is influenced by farm activities and transportation which are isolated to the immediate site of the farming activity and along the Township roadways, and state and federal highway systems. Urban areas tend to experience more noise due to the higher concentration of people and traffic.

The region surrounding Devils Lake is relatively flat with an elevation change of 300 feet through out the 900 square mile project area. The topography consists of a gentle rolling landscape and rolling hills to the south of Devils Lake. Rising lake levels have increased the dominance of water in the regional visual landscape.

4.9.2 Regulatory Setting

Studies have shown that some of the most pervasive sources of noise in our environment today are those associated with transportation. Traffic noise tends to be a dominant noise source in our urban as well as rural environment. In response to the problems associated with traffic noise, the United States code of Federal Regulations Part 772 (23 CFR 772), "Procedures for Abatement of Highway Traffic Noise and Construction Noise," establishes standards for mitigating highway traffic noise.

The level of highway traffic noise depends on three things: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of the traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater numbers of trucks. Vehicle noise is a combination of the noises produced by the engine, exhaust, and tires. The loudness of traffic noise can also be increased by defective mufflers or other faulty

equipment on vehicles. Any condition (such as a steep incline) that causes heavy laboring of motor vehicle engines will also increase traffic noise levels. In addition, there are other, more complicated factors that affect the loudness of traffic noise. For example, as a person moves away from a highway, traffic noise levels are reduced by distance, terrain, vegetation, and natural and manmade obstacles. Traffic noise is not usually a serious problem for people who live more than 150 meters from heavily traveled freeways or more than 30 to 60 meters from lightly traveled roads.

Traffic noise impacts occur when the predicted traffic noise levels approach or exceed the noise abatement criteria (Table 2), or when the predicted traffic noise levels substantially exceed the existing noise levels.

Table 2 Noise Abatement Criteria (NAC) Hourly A-Weighted Sound Level in Decibels (dBA)*

<u>Activity Category</u>	<u>$L_{eq}(h)$³</u>	<u>$L_{10}(h)$⁴</u>	<u>Description of Activity Category</u>
A	57 (Exterior)	60 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	--	Undeveloped lands.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

* Either $L_{eq}(h)$ or $L_{10}(h)$ (but not both) may be used on a project.

NOTE: These sound levels are only to be used to determine impact. These are the absolute levels where abatement must be considered. Noise abatement should be designed to achieve a substantial noise reduction - not the noise abatement criteria.

³ L_{eq} - the equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as a time-varying sound level during the same period.

⁴ $L_{eq}(h)$ - the hourly value of L_{eq} .

4.9.3 Environmental Consequences and Mitigation Measures

4.9.3.1 Alternative 1: No action

Under this alternative road ways and homes would continue to be flooded. This would result in a natural shift in transportation patterns. Transportation noise may increase under this alternative due to increasing traffic on alternate roadways. Noise may also decrease as inundated roads are abandoned. The potential exists that overall noise levels may decrease due to some migration of residents from the region. The increase noise as existing roads absorbed the increased traffic may have adverse effects on persons who live near the alternate routes. However, noise impacts are not expected to be significant.

While the landscape of the project area will continue to change with rising lake levels the No Action alternative does not effect these changes.

4.9.3.2 Alternative 2: Grade Raises

Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours. Noise impacts are not expected to be significant.

The grade raises would potentially affect local topography by elevating roadbeds to 1468 feet (this elevation is inclusive of 3 feet of free-board). This topographic change may not be noticeable while water levels of Devils Lake are high however, at some point in the future lake levels are expected to recede. If the lake recedes to the 1993 level of 1422.5 the road system could rise 44 feet above the landscape and would be a stark contrast to the surrounding area.

4.9.3.3 Alternative 3: Road Relocations

Impact under this alternative would be similar to those described in Alternative 2. Noise impacts are expected to be short in duration and not significant.

New roads in previous undeveloped areas would alter the visual character of the area. This change may be initially noticeable at the site of the relocation but is localized and not considered to be significant.

4.9.3.4 Alternative 4: Alternate Route

Noise and visual impacts from this alternative would be similar to Alternative 3.

4.9.3.5 Alternative 5: Home Acquisition

Noise from demolition of homes may have adverse effects on persons who live near the construction area. Transportation noise may increase under this alternative due to increasing traffic on alternate roadways. Noise may also decrease as inundated roads are abandoned. The potential exists that overall transportation levels may decrease due to some migration from the region. The increase noise as existing roads absorbed the increased traffic may have adverse effects on persons who live near the alternate routes. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours. Noise impacts from demolish activities are expected to be short in duration and not significant.

Visual impacts caused by this alternative would be similar to those described in the No Action alternative.

4.10 Cumulative Impacts

Cumulative effects are the impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts will be considered when determining the compatibility of this PEA for specific actions. If cumulative impacts are identified, they will be considered in a memorandum to this PEA or in a SEA. If no cumulative impacts would be created and the specific action is found to be accurately described in this PEA and PEA FONSI, a prepared memorandum would state that cumulative impacts would not occur from the proposed action.

For the purpose of this PEA, the incremental effects of the alternatives are the features to be addressed for cumulative effects. The effects of any of the action alternatives may be considered minor, but when added to past actions potentially may be significant.

Some past projects, on-going projects and reasonably foreseeable actions that are either being planned or considered by other agencies or groups that would be considered in a cumulative effects analysis include:

- ? Federal and State outlet flood reduction measures in Devils Lake.
- ? Residential developments.
- ? FAS road construction/relocation (including grade raises and resolving the roads as dams issue).
- ? Commercial development.
- ? Ecosystem restoration projects by various agencies.
- ? Water quality improvement measures by agencies.
- ? Wetland restoration efforts by the U.S. Fish and Wildlife Service, Natural Resources Conservation Service (NRCS), Tribal interests, and others.

Some of these actions are identified as reasonably foreseeable only in that they have been identified as actions that other agencies are investigating for feasibility. It is not an indication of constructability or whether the action would actually be implemented. They are identified to capture the types of projects that may require consideration under cumulative effects.

4.10.1 Federal Highway Administration Grade Raise Road Project

FHWA is leading a multi-agency team that has developed an interim plan to look at 4 critical BIA roads, BIA 1, BIA 2, BIA 4, and BIA 5, and fortification of emergency dikes, if necessary, to withstand reasonably predictable lake rises for the next 1 to 2 years. This project is being developed concurrently to this PEA and will undergo a separate project specific review under NEPA by the FHWA. The following brief summary of the scope of this project provided by FHWA is presented to facilitate the cumulative effects analysis. This project is not eligible for FEMA funding because other federal funding has been made available.

Several Bureau of Indian Affairs (BIA) roads are constructed to elevations of 1451 feet to 1453 feet and some roads are now acting as dams to the current lake elevation of 1448 feet. There is concern that the roads may be overtopped in the near future if the lake continues to rise. Other roads under the jurisdiction of the BIA are also in danger of being overtopped but are currently constructed to an elevation higher than 1451. Four BIA roads, BIA 1, BIA 2, BIA 4 and BIA 5 have been identified as requiring immediate action. There are also approximately 7 emergency dikes that were constructed under the supervision of the Army Corps of Engineers that help protect property and roads in the immediate area which require reinforcing.

The scope of the FHWA project will be to raise the grade of BIA 1 and 2 to a constant elevation of 1453 or greater. BIA 4, south of BIA 1, will also be raised to a constant elevation of 1453 or greater. This grade raise would occur prior to any work on BIA 1 and function as an emergency measure in case there is a breach in BIA 1. BIA 5 will be stabilized with a stability berm. Stability berms and some armoring of the side slopes will also be required for three levees. These roads will continue to function as dams in the interim until such time that the roads acting as dams project is designed and constructed.

In addition to the road reconstruction, there are 7 emergency dikes that were constructed by the Spirit Lake Nation in conjunction with the USACE. These emergency dikes were not designed to function as permanent dams but as a temporary measure to allow the Spirit Lake Nation time to decide how to proceed with the continuing emergency. Therefore, the emergency dikes may require interim reinforcing in order to prevent a breach.

The four BIA roads have been elevated in the past due to rising lake waters. They were not constructed to function as long-term dams. The reconstructed BIA roads are, in effect, acting as dams that protect human life, resources, and the existing transportation system. The USACE will evaluate if the proposed road raise will provide an adequate factor of safety for slope stability and an adequate factor of safety for seepage through the impervious road fill. If this analysis indicates that the BIA road raise would cause a slope failure or potential piping situation a design detail will be provided by USACE that will reduce the risk of failure. This detail will provide an interim fix until the permanent roads as dams project can be designed and constructed.

The FHWA project has significant implications to public health and safety. In the context of cumulative effects it should provide beneficial effects once completed. Construction impacts will be limited to site specific locations and would contribute any incremental adverse impacts to those identified in this PEA.

In addition to the BIA road project FHWA is relocating US 281. As part of this project the potential exists that portions of the abandoned road maybe taken over by the local transportation department in Benson County so that a portion of the local road net work can be maintained. There are implications to this transfer of responsibility which may affect eligibility of the old US 281 for FEMA funding in the future. The scope of this issue is beyond the scope of this PEA. Irrespective of this issue these projects will increase the magnitude and duration of the impacts of the PEA alternatives. In some cases the cumulative effects may become significant particularly by increasing travel times and distances within the project area because of the abandonment of road segments and disruption of traffic during construction.

4.10.2 Devils Lake Outlet Projects

For purposes of this analysis it is assumed that the flood control outlet of the USACE would be implemented, and the State outlet will be operational. The incremental effects of the outlets when added to other reasonably foreseeable actions would be significant. Depending on which projects are in place first, there may be an effect on how subsequent projects would be operated. The cumulative effects of these projects would have both beneficial and adverse effects to natural resources.

4.10.3 Cumulative Effects of PEA Alternatives

The cumulative effects of road grade raises, road relocations, alternate routes and home by-outs and relocations have, in the past, been considered to be additive and mitigated on a project-by-project basis. It is probable that the cumulative effect of these actions have contributed to the migration out of the area and impacted the local and regional economy, both positively and negatively. It is assumed that the effects of the action alternatives are mitigatable and would be addressed during the review of the individual project.

The major incremental features that have the greatest potential to affect the alternatives discussed in the PEA are the two outlets. The cumulative and incremental effects of the outlets would be significant, and the incremental effects and potential mitigation features have been identified in the respective planning documents for the outlets. The success of these projects to control the rising lake levels will have a direct effect on the extent and magnitude of the impacts all of the action alternatives of the PEA. Conversely the incremental effects of the alternatives would not contribute to the significances of the impacts to be created by the operation of the outlets or other projects in the area. This is because the impacts of alternatives on the hydrology and the water quality and the associated effects on wetlands, and biological resource of the project area are incrementally insignificant when added to the impacts of outlets.

5.0 Summary

Presented in Table 3 is a summary of the impacts of each alternative.

Table 3 Comparative Matrix of Alternative Impacts

Resource Areas	Alternative 1 No Action	Alternative 2 Road Grade Raise	Alternative 3 Road Relocations	Alternative 4 Alternative Route	Alternative 5 Home Acquisition
Physiography/Geology	No significant effect.	Impact to topography when lake recedes.	No significant effect.	No significant effect	No significant effect
Soils & Prime Farmland	No significant effect.	Minimal erosion potential which can be mitigated with BMPs. No impact to prime farmland.	Minimal erosion potential which can be mitigated with BMPs. May potentially result in the conversion of prime farmland to roadway.	No significant effect.	No significant effect.
Air Quality	No significant effect.	No significant effect.	No significant effect.	No significant effect.	No significant effect.
Water Resource					
Floodplains EO 11988	No significant effect.	Fill may be added in floodplain. FEMA would follow 8-Step Process to determine effects.	Minimal impact. Relocations would be to extent possible out of floodplain. FEMA would follow 8-Step Process as appropriate to determine effects	No significant effect.	Removes building from floodplain.
Protection of Wetlands EO 11990	No significant effect.	Fill may be added in wetlands. FEMA would follow 8-Step Process to determine effects.	Minimal impact. Relocations would attempt to avoid wetlands. FEMA would follow 8-Step Process as appropriate to determine effects	No significant effect.	No significant effect.
Water Quality	No significant effect.	Minimal impact which can be mitigated by use of BMPs.	Minimal impact which can be mitigated by use of BMPs.	No significant effect.	No significant effect.

Resource Areas	Alternative 1 No Action	Alternative 2 Road Grade Raise	Alternative 3 Road Relocations	Alternative 4 Alternative Route	Alternative 5 Home Acquisition
Biological Resources	No significant effect.	No effect. If FEMA determines there may be an effect it will initiate informal consultation with USFWS.	No effect. If FEMA determines there may be an effect it will initiate informal consultation with USFWS.	No effect.	No effect.
Cultural Resources	No effect.	No effect.	Potential for impacts on undisturbed land. Impacts can be mitigated through consultation with SHPO and if appropriate THPO.	No effect.	Potential to demolish house on or eligible for nomination to the National Register of Historic Places. Consultation with SHPO and if appropriate THPO. Mitigate loss by recordation of building prior to demolition.
Socioeconomics	Losses of homes and roads with no FEMA support to mitigate effects of rising lake levels.	Homes remain at risk of being flooded. Road network work is maintained.	Homes remain at risk of being flooded. Road network work is maintained.	Homes remain at risk of being flooded. Road network work is not maintained.	Moves residents out of harms way through by-out of home. Road network work is not maintained.
Transportation	Extensive loss of non-FAS road network due to flooding. Significant impacts to transportation system.	Maintains existing road network. Potentially creates safety hazards by maintain roads that are surrounded by water.	Maintains existing road network. May reduce some safety hazards by moving road out of and way from lake. Potential to increase travel times and distance.	Extensive loss of non-FAS road network due to flooding. Significant impacts to transportation system.	Extensive loss of non-FAS road network due to flooding. Significant impacts to transportation system.

Resource Areas	Alternative 1 No Action	Alternative 2 Road Grade Raise	Alternative 3 Road Relocations	Alternative 4 Alternative Route	Alternative 5 Home Acquisition
Public Services and Utilities	Public services and utilities would continue to be impacted by rising lake levels.	Utilities in and under roadway may be impacted. Potentially creates safety hazard because of reduced separation between power lines and roadway. May maintain access to existing services and utilities.	May require relocation of some services and utilities to ensure access for operation and maintenance. May limit access to some utilities that were accessed by the abandoned road segment.	May require relocation of some services and utilities to ensure access for operation and maintenance. May limit access to some utilities that were accessed by the abandoned road segment.	May require relocation of some services and utilities to ensure access for operation and maintenance. May limit access to some utilities that were accessed by the abandoned road segment.
Noise and Visual Resources	No significant effect.	Potentially significant impact to landscape when water recedes due to the elevation of the raised roads over surrounding land.	No significant effect.	No significant effect.	No significant effect.
Cumulative Effects	The impacts of the rising lake if no actions are taken would be significant.	The effectiveness of the outlet projects will determine the magnitude of the cumulative effects from adding this alternative. The impacts of the outlet overshadow any of the impacts of this alternative.	The effectiveness of the outlet projects will determine the magnitude of the cumulative effects from adding this alternative. The impacts of the outlet overshadow any of the impacts of this alternative. The impacts of the FAS road construction	The effectiveness of the outlet projects will determine the magnitude of the cumulative effects from adding this alternative. The impacts of the outlet overshadow any of the impacts of this alternative. The impacts of the FAS road construction	The effectiveness of the outlet projects will determine the magnitude of the cumulative effects from adding this alternative. The impacts of the outlet overshadow any of the impacts of this alternative. The impacts of the FAS road

Resource Areas	Alternative 1 No Action	Alternative 2 Road Grade Raise	Alternative 3 Road Relocations	Alternative 4 Alternative Route	Alternative 5 Home Acquisition
			and relocation projects will create an additive effect to the impacts of this alternative and potentially could create significant impacts to the transportation system of the project area.	and relocation projects will create an additive effect to the impacts of this alternative and potentially could create significant impacts to the transportation system of the project area.	construction and relocation projects will create an additive effect to the impacts of this alternative and potentially could create significant impacts to the transportation system of the project area.

6.0 Agencies Consulted and References

During the preparation of this PEA the following agencies were consulted and requested to comment on the alternatives and scope of the PEA.

U. S. Fish and Wildlife Service
U. S. Army Corps of Engineers
Federal Highway Administration
Natural Resource Conservation Service
North Dakota State Water Commission
North Dakota Division of Emergency Services
North Dakota Department of Wildlife
North Dakota Department of Health
State Historical Society of North Dakota
Ramsey County Highway Department
Benson County Highway Department
Nelson County Highway Department
Towner County highway Department

7.0 List of Preparers

7.1 FEMA

Bob Cox, FEMA Region VIII, Regional Environmental Officer
Paul Seeley, FEMA Region VIII, Environmental Liaison Officer/Environmental Specialist

8.0 Final Public Notice

Public notice is hereby given by the Department of Homeland Security, Federal Emergency Management Agency (FEMA) of the availability of the Final Programmatic Environmental Assessment for the Devils Lake Region, North Dakota (PEA). Three letters were received commenting on the Draft PEA. Letters were received from: U. S. Army Corps of Engineers, North Dakota Regulatory Office, Bismarck, North Dakota, Natural Resources Conservation Service, Bismarck, North Dakota and the State Historical Society of North Dakota, Bismarck, North Dakota. Copies of the letters and FEMA's response to comments are presented in the Final PEA.

Based upon the information contained in the Final Programmatic Environmental Assessment for the Devils Lake Region, North Dakota as proposed by the Federal Emergency Management Agency (May 2006), the potential impacts resulting from the typical recurring actions, and in accordance with FEMA's regulations in 44 CFR Part 10 (Environmental Considerations) and Executive Orders 11988 (Floodplain Management), 11990 (Protection of Wetlands), and 12898 (Environmental Justice), FEMA has found that the Proposed Actions described in this PEA will

have no significant long term adverse impact on the human environment. As a result of FEMA's Finding of No Significant Impact, an Environmental Impact Statement (EIS) will not be prepared and the Proposed Actions with the associated mitigation measures and stipulations as described in the Final Programmatic Environmental Assessment and meeting all conditions prescribed for that particular project type, may proceed. FEMA issued its Finding of No Significant Impacts (FONSI) and the Final Programmatic Environmental Assessment for the Devils Lake Region on May 11, 2006. The FONSI is published in the Final PEA.

FEMA will use this PEA to determine the level of environmental analysis and documentation required under NEPA for any of the proposed alternatives in the four counties of the Devils Lake Region, once site-specific information on a selected alternative is provided. These alternatives represent classes of actions that may be implemented individually or in combination with one another during a Presidentially declared disaster and include:

1. **No Action**
This alternative involves maintaining the status quo without undertaking any action...
2. **Incremental Road Grade Raise**
This alternative typically involves the raising of an existing road grade within the footprint of a flooded roadway including the parallel drainage ditch.
3. **Road Relocation**
This alternative involves the relocation of a flooded segment of roadway to a new location that will not have the potential to be flooded in the future.
4. **Alternate Route**
This alternative involves abandoning the existing flooded roadway and the traffic patterns being re-routed onto an existing alternative route.
5. **Home Acquisition**
This alternative involves the acquisition of homes that are accessed by roads subject to flooding and are no longer accessible.

The environmental review of a proposed project(s) will require consultation and coordination with-at a minimum-the following Federal and State agencies: U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers; Natural Resources Conservation Service; North Dakota State Water Commission, Department of Wildlife, Department of Health and State Historical Society. Other agencies may be consulted as needed depending on the nature of the project

If the alternatives, levels of analysis, and site-specific information of an action proposed for FEMA funding are fully and accurately described in the PEA, FEMA will prepare a memorandum documenting this determination. This memorandum would state that FEMA has reviewed the proposed action, alternatives, and potential direct, indirect and cumulative impacts and found them to be accurately described by the PEA and this FONSI. No further documentation would be required to comply with NEPA. Because FEMA would be required to implement the mitigation measures contained in the PEA, the memorandum would summarize the mitigation measures to be undertaken for the action.

If the specific action is expected to (1) create impacts not described in the PEA; (2) create impacts greater in magnitude, extent, or duration than those described in the PEA; or (3) require

mitigation measures to keep impacts below significant levels that are not described in the PEA; then a Supplemental Environmental Assessment (SEA) and corresponding FONSI may be prepared to address the specific action. The SEA would be tiered from this PEA, in accordance with 40 CFR Part 1508.28.1. Actions that are determined, during the preparation of the SEA, to require a more detailed or broader environmental review will be subject to the stand-alone EA process.

Interested persons may review the Final PEA at the following locations: Lake Region Public Library 423 7th Street NE Devils Lake, ND, Devils Lake Spirit Lake Tribe, Fort Totten, ND; Minnewaukan Public Library, Minnewaukan, ND; Bismarck Public Library 515 North 5th Street, Bismarck, ND. Interested persons may request a copy of the Final PEA by contacting Mr. Bob Cox, FEMA Region VIII Environmental Officer at 303.235.4714 or bob.cox@dhs.gov or Mr. Paul Seeley, FEMA Region VIII Environmental Specialist at 303-506-1330 or paul.seeley@dhs.gov.

References

Federal Emergency Management Agency. Devils Lake North Dakota Building & Infrastructure Inventory. March 2001.

Federal Emergency Management Agency. Devils Lake Risk Assessment 2K2. May 2002.

Federal Highway Administration. ND ERFO a991), Devils Lake Various BIA Routes Federal Lands Highway Program Project Agreement. December 21, 2005.

U. S. Army Corps of Engineers. Devils Lake, North Dakota, Integrated Planning Report and Environmental Impact Statement. April 2003

U. S. Department of Agriculture. Soil Conservation Service. Soil Survey of Ramsey County, North Dakota. August 1986.

U. S. Department of Agriculture. Soil Conservation Service. Soil Survey of Benson County Area, North Dakota. December 1979.

U. S. Department of Agriculture. Soil Conservation Service. Soil Survey of Nelson County, North Dakota. June 1989.

Appendices

Appendix A Finding Of No Significant Impacts

FINDING OF NO SIGNIFICANT IMPACT

for certain disaster recovery activities undertaken in the
Devils Lake Region

Ramsey County, Benson County, Nelson County, Tower County, North Dakota

BACKGROUND

The surface area of Devils Lake, ND increases as the lake level rises. Most of the expansion occurs to the west and north, inundating primarily pasture and agriculture lands. When the lake reached its historic low of 1400.9 feet in 1940, the lake's surface area was only about 10 square miles, confined to the main bay of the lake. Just prior to the sustained lake rise of the last eight years, the lake level in 1993 was at 1422.5 feet with a surface area of 44,000 acres (68 square miles). The lake currently has a surface area of 137,000 acres (214 square miles). Each foot of lake rise inundates a progressively greater area and has resulted in the inundation of millions of dollars worth of facilities, including roads, utilities, land and homes.

The National Environmental Policy Act of 1969 (NEPA) and its implementing regulations at 40 C.F.R. Part 1500 and 44 C.F.R. Part 10 direct the Department of Homeland Security/Federal Emergency Management Agency (FEMA) to take into consideration the environmental consequences of proposed actions during the decision-making process. FEMA must comply with NEPA before making federal funds available for disaster response, recovery, and mitigation in the implementation of the Public Assistance Program.

FEMA has determined through experience that the majority of the typical recurring actions proposed for funding in the Devils Lake Region, North Dakota and for which an EA is required, can be grouped by type of action. These groups of actions can be evaluated in a Programmatic Environmental Assessment (PEA) for compliance with NEPA and its implementing regulations without the need to develop and produce a stand-alone EA for every action. This Final PEA evaluates typical actions undertaken by FEMA designed to provide disaster relief to victims of historic and anticipated future flooding caused by rising water levels in the Devils Lake basin.

DESCRIPTION

FEMA will use this PEA to determine the level of environmental analysis and documentation required under NEPA for any of the proposed alternatives in the four counties of the Devils Lake Region, once site-specific information on a selected alternative is provided. These alternatives represent classes of actions that may be implemented individually or in combination with one another during a Presidentially declared disaster and include:

1. **No Action**
This alternative involves maintaining the status quo without undertaking any action..
2. **Incremental Road Grade Raise**
This alternative typically involves the raising of an existing road grade within the footprint of a flooded roadway including the parallel drainage ditch.
3. **Road Relocation**
This alternative involves the relocation of a flooded segment of roadway to a new location that will not have the potential to be flooded in the future.
4. **Alternate Route**
This alternative involves abandoning the existing flooded roadway and the traffic patterns being re-routed onto an existing alternative route.
5. **Home Acquisition**
This alternative involves the acquisition of homes that are accessed by roads subject to flooding and are no longer accessible.

The environmental review of a proposed project(s) will require consultation and coordination with-at a minimum-the following Federal and State agencies: U.S. Fish and Wildlife Service; U.S. Army Corps of Engineers; Natural Resources Conservation Service; North Dakota State Water Commission, Department of Wildlife, Department of Health and State Historical Society. Other agencies may be consulted as needed depending on the nature of the project.

If the alternatives, levels of analysis, and site-specific information of an action proposed for FEMA funding are fully and accurately described in the PEA, FEMA will prepare a memorandum documenting this determination. This memorandum would state that FEMA has reviewed the proposed action, alternatives, and potential direct, indirect and cumulative impacts and found them to be accurately described by the PEA and this FONSI. No further documentation would be required to comply with NEPA. Because FEMA would be required to implement the mitigation measures contained in the PEA, the memorandum would summarize the mitigation measures to be undertaken for the action.

If the specific action is expected to (1) create impacts not described in the PEA; (2) create impacts greater in magnitude, extent, or duration than those described in the PEA; or (3) require mitigation measures to keep impacts below significant levels that are not described in the PEA; then a Supplemental Environmental Assessment (SEA) and corresponding FONSI may be prepared to address the specific action. The SEA would be tiered from this PEA, in accordance with 40 CFR Part 1508.28.1. Actions that are determined, during the preparation of the SEA, to require a more detailed or broader environmental review will be subject to the stand-alone EA process.

FINDING

Based upon the information contained in the Final Programmatic Environmental Assessment for the Devils Lake Region, North Dakota as proposed by the Federal Emergency Management Agency (May 2006), the potential impacts resulting from the typical recurring actions, and in accordance with FEMA's regulations in 44 CFR Part 10 (Environmental Considerations) and Executive Orders 11988 (Floodplain Management), 11990 (Protection of Wetlands), and 12898 (Environmental Justice), FEMA has found that the Proposed Actions described in this PEA will have no significant long term adverse impact on the human environment. As a result of this Finding of No Significant Impact, an Environmental Impact Statement (EIS) will not be prepared and the Proposed Actions with the associated mitigation measures and stipulations as described in the attached Final Programmatic Environmental Assessment and meeting all conditions prescribed for that particular project type, may proceed.

APPROVAL


Bob Cox
Regional Environmental Officer

5/11/06
Date

Appendix B Construction and Environmental Disturbance Mitigation Requirements North Dakota Department of Health

All necessary measures must be taken to minimize fugitive dust emissions created during construction activities. Any complaints that may arise are to be dealt with in an efficient and effective manner.

Care is to be taken during construction activities near water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and replacement and revegetation of any disturbed area as soon as possible after work had been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and or the handling of fuels on the site. Guidelines for minimizing degradation to water ways during construction are attached.

Projects disturbing one or more acres are required to have a permit to discharge storm water runoff until the site is stabilized by the reestablishment of vegetation or other permanent cover. Further information on the storm water permit is available at the Department of Health website or by calling the division of water quality. Also cities may impose additional requirements and/or specific BMPs for construction affecting their storm drainage system.

All necessary measures must be taken to minimize the disturbance of any asbestos-containing materials and to prevent any asbestos fiber release episodes. Any facility that is to be renovated or demolished must be inspected for asbestos. Notification of the Departments Division of Air Quality is required before any demolition. Removal of any friable asbestos containing material must be accomplished in accordance with section 33-15-13-02 of the North Dakota air pollution control rules.

Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours.

Many buildings constructed prior to 1978 have interior and exterior surfaces coated with lead-based paint. The Office of Housing and Urban Development (HUD), as well as other Federal Housing Authorities have implemented requirements for reducing exposure to lead from lead-based paint. If the building is under the control of a Federal Agency, these materials must be handled according to their requirements which may include the use of properly trained individuals for removal and disposal. If the building is not under the control of a Federal Agency, the lead-based paint should be properly handled to reduce or prevent exposing workers and building occupants to lead.

All solid waste material must be managed and transported in accordance with the state's solid and hazardous waste rules. Appropriate efforts to reduce, reuse and/or recycle waste materials are strongly encouraged. As, appropriate, segregation of inert waste from non-inert waste can generally reduce the cost of waste management.

The North Dakota Department of Health has indicated that the alternatives are consistent with the State implementation Plan for the Control of Air pollution for the State of North Dakota (North Dakota Department of Health, January 6, 2006).

Appendix C Draft Memorandum to Programmatic Environmental Assessment

Following a Presidential disaster declaration in the four counties surrounding the Devils Lake and Stump Lake FEMA will place all proposed projects that are consistent with the alternatives described in the PEA Devils Lake Region North Dakota (road grade raises, road relocations, alternate routes and home by-outs) in the environmental queue of the National Emergency Management Information System (NEMIS) (or its predecessor data management system) for review and approval prior to the obligation of funds.

The environmental review of the proposed project(s) will require consultation and coordination with the following Federal and State agencies:

U. S. Fish and Wildlife Service
U. S. Army Corps of Engineers
Natural Resource Conservation Service
North Dakota State Water Commission
North Dakota Department of Wildlife
North Dakota Department of Health
State Historical Society of North Dakota

Following consultation and coordination with these agencies FEMA will make one of the following determinations:

1.) If the alternatives, levels of analysis, and site-specific information of an action proposed for FEMA funding are fully and accurately described in this PEA, FEMA will prepare a memorandum documenting this determination. This memorandum would state that FEMA has reviewed the proposed action, alternatives, and potential direct, indirect and cumulative impacts and found them to be accurately described by the PEA and its associated FONSI. No further documentation would be required to comply with NEPA. Because FEMA would be required to implement the mitigation measures contained in the PEA, the memorandum would summarize the mitigation measures to be undertaken for the action.

2.) If the specific action is expected to (1) create impacts not described in the PEA; (2) create impacts greater in magnitude, extent, or duration than those described in the PEA; or (3) require mitigation measures to keep impacts below significant levels that are not described in the PEA; then a Supplemental Environmental Assessment (SEA) and corresponding FONSI would be prepared to address the specific action. The SEA would be tiered from the PEA, in accordance with 40 CFR Part 1508.28.1. Actions that are determined, during the preparation of the SEA, to require a more detailed or broader environmental review will be subject to the stand-alone EA process.

In addition to preparing a memorandum to the PEA or SEA FEMA would also complete the environmental review form for the proposed project

The following is an example of a memorandum documenting FEMA's determination that a proposed projects impacts are within the scope of the PEA. This example memorandum describes a fictitious project in a fictitious county in North Dakota. It is only as an example.

Memorandum of National Environmental Policy Act (NEPA) Compliance under the Federal Emergency Management Agency (FEMA) Programmatic Environmental Assessment (PEA) on 406 and 404 Hazard Mitigation Measures (FEMA-DR-xxxx-ND)

**Applicant Jeffersonville Township
Relocation of Township Road 5**

FEMA, the Jeffersonville Township, and the North Dakota Department of Emergency Services (NDDDES) propose to relocate a segment of Township Road 5 located in T. 55 N R. 66 W along section 5. The proposed relocation involves the construction of a new road segment to restore the transportation route along Road 5 that was flooded. The new segment will be 0.5 miles long and 24 feet wide. It will be constructed across non irrigated farmland at an elevation of 1466.

FEMA reviewed the proposed project and its potential long-term, adverse direct, indirect, and cumulative impacts on the natural environment including a review to determine if there would be any impacts to Prime Farmland and determined that the PEA and the associated Finding of No Significant Impact fully and accurately describe the proposed action and its potential impacts. Thus, no further documentation is required by FEMA to comply with NEPA.

The applicant is required to incorporate the following mitigation measure into the proposed project:

List of Mitigation Actions Required

Preparer:
Title:
Date:

Appendix D Comments and Responses to the Draft Programmatic Environmental Assessment Devils Lake Basin North Dakota

Three letters were received commenting on the Draft PEA. Letters were received from:

- ? U. S. Army Corps of Engineers, North Dakota Regulatory Office, Bismarck, North Dakota
- ? Natural Resources Conservation Service, Bismarck, North Dakota
- ? State Historical Society of North Dakota, Bismarck, North Dakota

Copies of these letters follow the response to comments.

U. S. Corps of Engineers

Comment 1: Page 18; Regulatory Setting. The second sentence of the second paragraph reads; “A Section 404 permit from the USACE must be obtained for any dredge or fill activities within jurisdictional water of the U. S.” The Corps commented that the following statement may be more appropriate. A Section 404 permit from the USACE may be required for the discharge of dredge and/or fill material in waters of the United States.

Response: Comment accepted, text has been changed.

Comment 2: Page 20; Section 4.3.3.5 Alternative 5: Home Acquisition. The last sentence of the paragraph reads; “This alternative would not have significant impacts to wetlands or water resources and would not require permits to implement.” The Corps commented that “If the activity involves the discharge of dredge and/or fill material being placed in waters of the United States, a permit from the USACE may be required.”

Response: Comment accepted, text has incorporated this language.

Comment 3: The Corps noted three typographical errors on the spelling of the Corps.

Natural Resource Conservation Service

Comment 1: The NRCS provided information on their responsibilities, information needs when specific projects are defined, processes used to evaluate impacts and mitigate them to farmland and wetlands under their jurisdiction and recommendation on the use of wetland banking.

Response: These comments do not require changes to the PEA. As specific projects are defined FEMA will provide NRCS further opportunity to comment on potential impacts to wetlands and agricultural lands.

State Historical Society

Comment 1: The SHPO recommended that consultation and cultural resource protocols and procedures established with the Central Federal Lands Highway Division of the Federal Highway Administration for the Devils Lake basin be adopted and followed by FEMA.

Response: FEMA will review the referenced agreement and make a determination concerning adoption of these protocols and procedures as part of the continuing review and evaluation of site-specific projects addressed in the PEA.